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STRATEGIC ENVIRONMENTAL ASSESSMENT IN NORWAY'S OFFSHORE OIL AND GAS

A Thesis Submitted to the College of Graduate Studies and

Research in Partial Fulfillment of the Requirements for the

Degree of Master of Arts in the Department of Political Studies

University of Saskatchewan Saskatoon

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ABSTRACT

Strategic environmental assessment (SEA) is used as a policy tool in the management of offshore oil and gas. As offshore oil and gas exploration continues to advance further into Arctic regions, questions of how SEA fits into petroleum policy frameworks, its process, and its effectiveness arise. This thesis adopts a historical institutionalist approach to explain SEA in Norway's offshore oil and gas sector, discussing lessons to be learned from the Norwegian case, as well as the applicability of SEA in similar Arctic governance regimes. The thesis identifies three main lessons: First, Norway's management of Arctic offshore hydrocarbon resources is a reflection of its distinct path of political development, particularly its emphasis on reaching consensus on sensitive political issues. Second, from the onset, Norway had the economic and political means to develop the institutional capacity and international experience required to manage an international offshore oil and gas operation. Third, the combination of these factors allowed Norway to adopt an incremental approach towards the advancement of its petroleum development, enabling decision-makers to adopt the principles of strategic environmental assessment into the policies that govern Norway's offshore resources.

TABLE OF CONTENTS

page

PERMISSION TO USE i
ACKNOWLEDGEMENTS ii
ABSTRACT iii
LIST OF FIGURES AND TABLES v
ABBREVIATIONS vi

CHAPTER ONE 8
1.1 Introduction 8
1.2 Background 10
1.3 Methods and Organization 12

CHAPTER TWO 14
2.1 Introduction 14
2.2 Conceptual Framework: SEA 14
2.3 SEA: Current Analysis 18
2.4 Analytical Framework: Historical Institutionalism 19
2.5 Summary 26

CHAPTER THREE 27
3.1 Introduction 27
3.2 Institutional Context: Nordic Model 27
3.3 Pre 1972 Era: "Norwegian Model" 32
3.4 The Norwegian Model 35
3.5 Introduction of EIA: 1972-1997 38
3.6 Emergence of REIA & IMP 42
3.7 Regional Environmental Impact Assessments 43
3.8 Integrated Management Plans 47

CHAPTER FOUR 48
4.1 Introduction 48
4.2 Offshore operations 49
4.3 Institutional Context 57
4.4 Ministry of Petroleum and Energy 58
4.5 Ministry of the Environment 61
4.6 Ministry of Fisheries and Coastal Affairs 63
4.7 Summary 66

CHAPTER FIVE 67
5.1 Strategic Nature of Norway's Oil and Gas Sector 67
5.2 Lessons 70
5.3 Conclusion 72

Bibliography 77

FIGURES

Figure 1. Map of the Norwegian Continental Shelf 11

Figure 2. Map of the Statfjord and Goliat Fields 54

TABLES

Table 1. Strategic Environmental Assessment Principles 16

Table 2. 10 Oil Commandments 39

Table 3. Development of Norway's Environmental Program 46

Table 4. Strategic Environmental Assessment Principles
In Norway's Oil and Gas Sector 68

ABBREVIATIONS

SEA – Strategic Environmental Assessment

EA – Environmental Assessment

IA – Impact Assessment

EIA – Environmental Impact Assessment

REIA – Regional Environmental Impact Assessment

IMP – Impact Management Proposal

PDO – Plan of Development and Operation

CHAPTER ONE

1.1 Introduction

The Arctic is changing at a rapid rate, and this change is accompanied by an increasing interest in the exploration of its non-renewable resources. As China and India continue on a trajectory of emerging as global economic powers rivaling Europe and North America, the global demand for natural resources - especially energy resources - appears insatiable. Arctic nations are beginning to hold greater appeal as an energy frontier because instability in the Middle East poses increased concerns over energy security.[1] Climate change and the potential of an extended drilling season, along with an improving geopolitical situation, are setting the context for a substantial increase in offshore oil drilling and exploration in the Arctic, both in terms of intensity and spatial extent. Such factors are making the Arctic, with its abundant oil and gas resources, one of the most valuable energy regions in the world.

While the interest in Arctic energy exploration is growing, many scholars argue that the world simply does not know enough about its long-term impact. Offshore oil and gas exploration, development, and production may or may not affect the Arctic environment nor that there are enough environmental measures in place to manage any potential long-term impacts resulting from energy development in this sensitive marine environment.[2] Within this context, the policies and regulatory frameworks that circumpolar nations (countries with ownership of Arctic territory) should adopt must often balance competing interests of developing offshore oil and gas while protecting the Arctic environment. In addition, preserving the social environment of the indigenous people whose livelihoods and future generations are intricately woven into the Arctic and its resources.

There is a demand from scholars, scientists, and society, to understand the environmental implications of offshore oil and gas operations.[3] The Arctic community

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[1] Oystein Noreng, *The Oil industry and Government: Strategy of the North Sea* (London: Croom Helm, 1980), 24.
[2] Maaike Knol, "The uncertainties of precaution: Zero discharges in the Barents Sea," *Marine Policy* 35 (2011): 399; Gunnar Futsaeter, "Environmental policy & regulation for oil exploration & shipping activities in the Barents Sea," *Marine Pollution Bulletin* 29, no. 6-12 (1994): 350; Arctic Monitoring and Assessment Programme (AMAP), "Arctic Oil and Gas 2007," accessed November 27, 2012, http://library.arcticportal.org/1552/1/oil_and_gas_assessment.pdf.
[3] Ibid.

has particularly focused its attention on Norway as an example of Arctic petroleum exploration and extraction. This oil-rich nation has been internationally recognized for its environmental commitments, nonetheless retained during the expansion of its offshore Arctic oil and gas operations. As Stenstadvold points out, "many foreign countries consider the Norwegian oil policy as well framed and balanced."[4] How Norway's energy regime emerged and how it differs from other Arctic oil and gas nations is of interest both to scholars and to emerging energy frontiers such as Canada's western Arctic. In particular, there is an interest in the way Norway's petroleum framework incorporates environmental strategies, such as strategic environmental assessments (SEA), into its offshore oil and gas policy; Norwegian policies suggest lessons for other Arctic nations.[5]

The purpose of this thesis is to examine the integration of SEA in Norway's offshore oil and gas sector. Drawing on historical institutionalist approach reveals that SEA strategies in Norway's oil and gas sector result from historical influences and institutional dynamics. Specifically, this thesis examines i) the historical path of development of environmental management in Norway's Arctic offshore oil and gas industry; ii) the nature and scope of SEA in Norway's Arctic offshore oil and gas sector; and iii) the lessons learned from the Norwegian case for other Arctic nations.

[4] Kjell Stenstadvold, "Regional and structural effects of North Sea oil in Norway," *GeoJournal* (1977): 72.

[5] C. Fidler and B. Noble, "Advancing strategic environmental assessment in the offshore oil and gas sector: lessons from Norway, Canada and the United Kingdom," *Environmental Impact Assessment Review* 34 (2012): 12.

1.2 Background

Norway is ranked as the seventh largest oil exporter and the second largest gas exporter in the world.[6] Oil and gas exploration and production occur offshore in three main regions: the North Sea, the Norwegian Sea and the Barents Sea (Figure 1), ranging respectively from the most to the least developed area. The Barents Sea is considered the new oil province. In a speech regarding sustainable petroleum activities in the Arctic, Mr. Ola Borten Moe, Minister of Petroleum and Energy stated, "petroleum activities in the Arctic are demanding; commercially, environmentally, technically, and climatically." Norway, for over 40 years, has balanced these demands, and continues to do so as the country aims to expand oil and gas exploration farther north.

Norway has gained international attention for its dedication to environmental standards in offshore oil and gas operations. A recent report submitted to the Storting by the Ministry of Petroleum and Energy outlines this commitment: the Ministry states, "The Government wants to combine Norway's role as a major energy producer with the ambition of being a world leader in environmental and climate policy."[7] Policy instruments, in addition to coordination between ministries, agencies, and industries facilitate an oil and gas framework that incorporates environmental and climate concerns into its offshore petroleum policy.

In Norway, as in other Arctic nations, there has been an effort to incorporate environmental assessments (EA) into offshore oil and gas policymaking; SEA, the application of EA to policies, plans and programs, is a tool that enables this process to occur. SEA allows for early consideration of cumulative environmental effects in policy, planning, and programming development. The aim of SEA is to protect the environment and to promote sustainability by moving beyond project level environmental assessments.

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[6] Ola Borten Moe, "Norwegian Petroleum Policy – the Arctic," (speech, Washington D.C. November 9, 2012), Brookings Institute, accessed November 20, 2012, http://www.regjeringen.no/upload/OED/pdf%20filer/Taler%20og%20artikler/2012-11-09_OlaBortenMoe_Presentation_Brookings.pdf.

[7] Ministry of Petroleum and Energy, "Meld St. 28 (2010-2011) Report to the Storting: An industry for the future-Norway's petroleum activities," accessed October 11, 2012, http://www.regjeringen.no/pages/35278666/PDFS/STM201020110028000EN_PDFS.pdf

This encompassing reach is achieved through integrating environmental considerations into institutional and governance frameworks.[8]

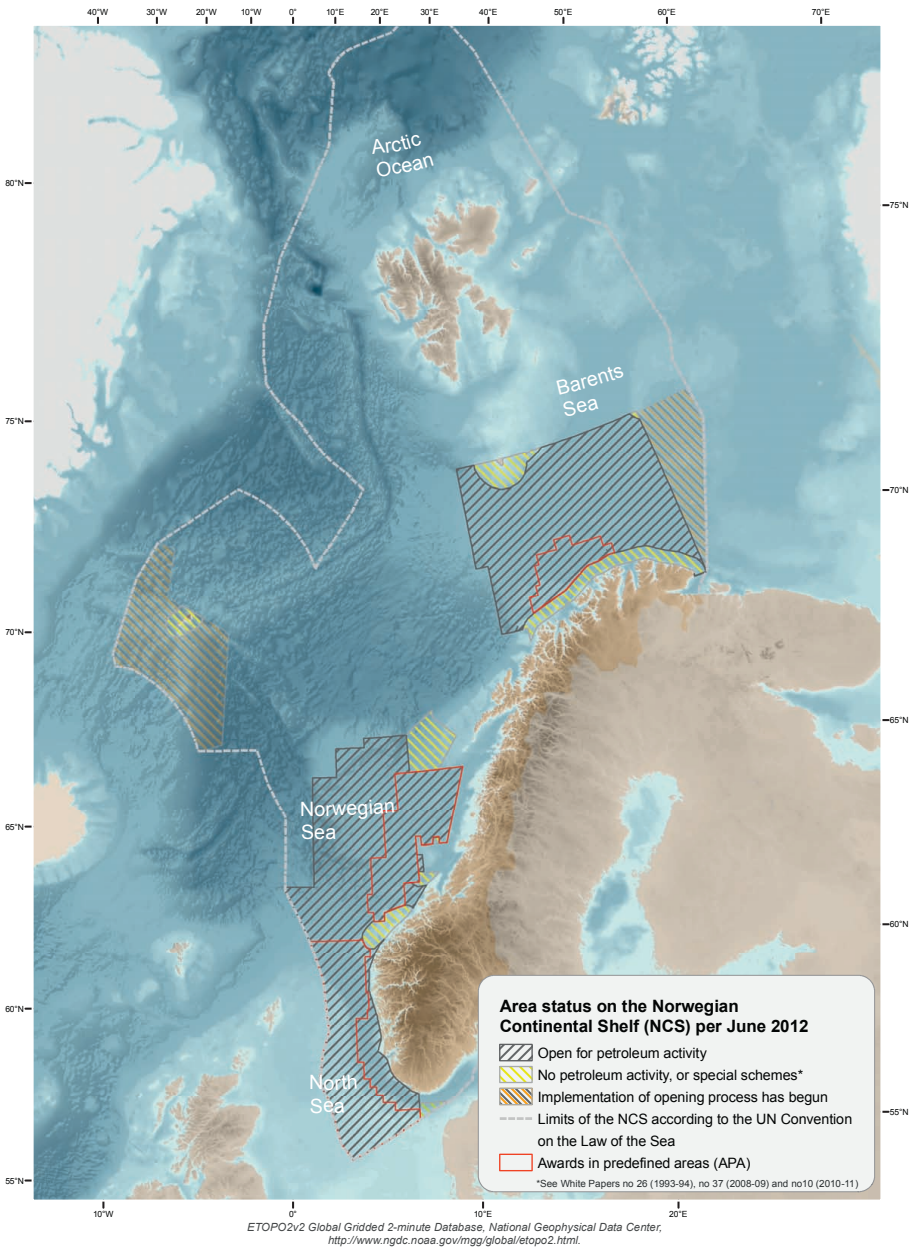

Fig. 1. Area of the Norwegian Continental Shelf (source – the Norwegian Petroleum Directorate)

[8] D. van Doren *et al.,* "Evaluating the Substantive Effectiveness of SEA: Towards a Better Understanding," *Environmental Impact Assessment Review* 38 (2013): 120-130; Bram F. Noble, "The Canadian Experience with SEA and Sustainability," *Environmental Impact Review* 22 (2002): 3-16; Dr. Hens Runhaar and Dr. Peter P.J. Driessen, "What makes Strategic Environmental Assessment Successful Environmental Assessment? The Role of Context in the Contribution of SEA to Decision-Making," *Impact Assessment and Project Appraisal* 25, no. 1 (2007): 2-14.

Although there is no single formal legislation or directive that explicitly outlines SEA and its purpose in Norway, application of its strategies does exist.[9] Norway has an extensive regulatory framework consisting of legal instruments such as sanctions, laws, economic incentives, and environmental guidelines; these tools are employed as policy mechanisms to shape the direction of Arctic offshore oil and gas development. In addition, routine environmental impact reports, surveys and studies are conducted in order to monitor and assess changes to the Arctic environment where offshore development is occurring. Condensing these environmental tools into a forum by which they can influence oil and gas policy decisions at the earliest stage of development occurs under an umbrella of complex interactions between government agencies, ministries, stakeholders, and industry.

1.3 Methods and Organization

This thesis draws from secondary data including journal articles, books, newspapers, and conference proceedings for its analysis. Moreover, the opportunity to travel to Norway arose during the development of the research. The field study conducted while in Norway focused on the governance of natural resources and its impact on community development. Although the focus of the field visit was not on data collection *per se*, this experience added a first-hand element to understanding the Norwegian governance structure and political culture beyond the literature research.

The subsequent chapter (Chapter Two) briefly discusses further the conceptual framework of SEA and explains how it has evolved as a policy tool. After providing the context of SEA, the chapter outlines the analytical framework of historical institutionalism. Chapter Three provides a background to Norway's approach to state-building, for this is an important element in understanding the emergence of Norway's petroleum administration. The chapter proceeds to demonstrate the chain of events that allowed for the integration of SEA into Norway's offshore oil and gas sector. Such integration is illustrated by the eras in which Norway's petroleum industry matured.

[9] C. Fidler and B. Noble, "Advancing Strategic Environmental Assessment in the Offshore Oil and Gas Sector: Lessons from Norway, Canada and the United Kingdom," *Environmental Impact Assessment Review* 34 (2012): 19.

Chapter Four presents accounts of the application of SEA throughout Norway's petroleum history. The cases will illustrate where SEA strategies have been applied at different developmental periods in Norway's petroleum industry. After the examples, the chapter focuses on the institutions, revealing that cooperation and coordination among the different Ministries result from Norway's historical context. As such, institutions have influenced the ability of SEA to effect policies, plans and programs in Norway's petroleum sector. The consequences provide increasing evidence to show that SEA in Norway's petroleum framework is produced by historical context and institutional dynamics. The last chapter discusses what the Norwegian context contributes to historical institutionalism and considers what lessons can be learned from the Norwegian approach to SEA in Arctic offshore oil and gas.

CHAPTER TWO
Theoretical Frameworks

2.1 Introduction

In recent decades, researchers have paid increasing attention to understanding strategic environmental assessments (SEA) and its role in the offshore energy sector.[10] In Norway, however, there has been little research on SEA and, in particular, its influence on offshore oil and gas planning and development. Understanding the historical and institutional context of Norway's petroleum sector is essential to understanding SEA's influence on the sector's planning and development. As such, this chapter outlines the concept of SEA and, and demonstrates how it has evolved as a policy tool. This framework is placed within a broader analytical context in order to understand how SEA emerged in Norway's offshore energy sector and to explain its influences on policy and planning.

2.2 Conceptual Framework: SEA

SEA is a concept and practical instrument that promotes the consideration of the environment prior to the development of a policy, plan, or program. SEA becomes an important tool in the management of petroleum resources because it provides the opportunity for stakeholders to influence the nature and complexity of the pending/proposed projects prior to implementation. In Norway, SEA has been utilized by policymakers as a tool to assist in deciding whether to open up new areas for offshore oil and gas operations, and whether certain environmental requirements will be attached to offshore licensing in the proposed area.

SEA is used to assess alternative perspectives and policy options to ensure that the best possible option is chosen for achieving development goals while at the same time

[10] Stephen Jay, "Strategic Environmental Assessment for Energy Production," *Energy Policy* 38 (2010): 3489; J.P. Wagner and M.G. Jones, "Strategic Assessment of Oil and Gas Activities: Looking Beyond EIA/SIA" (presented at the Seventh SPE International Conference on Health, Safety, and Environment in Oil and Gas Exploration and Production, Calgary, Alberta, March 2004).

mitigating environmental, economic, and social impacts prior to the selection of a particular policy, plan, or program. Goals are achieved through engaging stakeholder interests in the decision-making process to ensure that all relevant information is available, and that all possible alternatives are considered. The flexibility of the SEA allows it to be applied in a variety of contexts, for it can be used to develop new policies or to assess existing ones. As Doelle *et al.* explains, "SEAs attempt to outline, integrate, refine and mitigate regional-scale concerns related to ecologically sensitive areas, multi-sectoral ocean use, and cumulative effects in advance of project based environmental assessments."[11] Thus, SEA goes beyond the assessment of a particular project or plan, to the assessment of policies that direct the decision to create plans and programs. Although in Norway specific SEA legislation does not exist, local applications of its strategies do exist and are being recognized in the early stages of policy making for the offshore oil and gas sector.[12]

With the advancement of offshore petroleum into the Far North, there is a recognized need for EAs to move beyond the project-level. In a recent article, Fidler and Noble examine SEA practice and influence in three international offshore systems: Norway, Atlantic Canada, and the United Kingdom.[13] They note that there is now a collective understanding that EAs must go beyond site-specific project impacts to consider the broader policy and regional planning context in which development projects operate. This step is important for the protection and long-term sustainability of the Arctic and its resources. Furthermore, these scholars note that offshore oil and gas developments in Arctic ecosystems, by their nature, require a large network of infrastructure, pose a higher risk to the marine environment, and often require regional and strategic coordination.

This thesis defines strategic environmental assessment as a, "systematic process of evaluating the potential environmental effects of proposed or existing policies, plans and programs and their alternatives," as adopted by the Canadian Council of Ministers of

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[11] Meinhard Doelle *et al.*, "Using Strategic Environmental Assessments to Guide Oil and Gas Exploration Decisions in the Beaufort Sea: Lessons Learned from Atlantic Canada," *CIRL Occasional Paper #39/ ECELAW Occasional Paper #3* September 2012, accessed November 16, 2012, http://dspace.ucalgary.ca/bitstream/1880/49278/1/StrategicEAsOP39.pdf

[12] C. Fidler and B. Noble, "Advancing Strategic Environmental Assessment in the Offshore Oil and Gas Sector: Lessons from Norway, Canada and the United Kingdom," *Environmental Impact Assessment Review* 34 (2012): 19.

[13] Ibid., 12-13.

the Environment.[14] What makes it a strategic approach to environmental assessments is how impact assessments are set within the broader planning process. Specifically, as outlined by the Canadian Council of Ministers of the Environment, "a strategic approach to assessment is one that involves the process of defining goals or visions for a region, proposing alternative means for achieving them, and selecting the most desirable approach."[15] Table 1 outlines the key principles and features of SEA, regardless of its nature of application. In Chapter 5, the thesis applies the principles below to the Norwegian offshore oil and gas context to assess whether Norway meets the criteria of SEA.

TABLE 1. STRATEGIC ENVIRONMENTAL ASESSEMENT PRINCIPLES

PRINCIPLES	DESCRIPTION
STRATEGIC	• Identifies strategic and long-term initiatives, evaluates alternatives; • Process of defining goals, or visions in terms of the desirable principles to be established.
FUTURES- ORIENTED	• Focuses on identifying possible futures; • Attempts to build a desirable future.
OBJECTIVES LED	• Examines particular goals and objectives to be accomplished; • Set within a broader, cumulative context.
TIERED	• Set within the context of previous and subsequent decision outcomes and objectives; • Influence on subsequent or downstream assessments, such as regional- based processes.
INTEGRATED	• Addresses interrelationships of biophysical, social and economic systems; • Encompasses the activities of multiple sectors that may exist in a region.
PROACTIVE	• Examines alternatives to identify the best practicable environmental option; • Ensures early and ongoing involvement of relevant stakeholders.
ALTERNATIVE FOCUSED/ ADAPTIVE	• Assess alternative policy, plan and programs; • Adapts strategies as new knowledge is gained through implementation, monitoring and feedback.[16]

[14] CCME, "Regional Strategic Environmental Assessment in Canada: Principles and Guidance," *Canadian Council of Ministers of the Environment* (Winnipeg, 2009): 26.
[15] Ibid., 12.
[16] Bram F. Noble and Jill Harriman-Gunn, "Chapter 6: Strategic Environmental Assessment," in *Part 1 Environmental Impact Assessment: Process, Practice, and Critique*, Kevin Stuart Hanna (Oxford University Press, 2009); CCME, "Regional Strategic Environmental Assessment in Canada: Principles and Guidance," *Canadian Council of Ministers of the Environment* (Winnipeg, 2009): 26.

The SEA literature has focused much of its attention on the SEA process and principles, with less focus being directed towards understanding SEA's integration and interaction within institutional arrangements/governance structures. This imbalance has left a gap in the SEA literature. As Bina notes, "SEA commentators have mainly focused on specific practical aspects of SEA as a tool applied to development initiatives, with comparatively few efforts dedicated to SEA theory."[17] It is important to address this gap because understanding the evolution of SEA within an institutional arrangement will help advance its effectiveness.

With additional resources being allocated towards the application of SEA, studying the evolution of SEA in relation to governance systems becomes increasingly important. Fidler and Noble, for example, note that, "there is a need for a better understanding of the nature and efficacy of SEA in offshore energy sector and its role in planning and development decisions."[18] Furthermore, Bina argues that as SEA becomes more entrenched into government's institutional regimes and agencies around the globe, literature needs to develop a better understanding of how SEA evolved and what SEA's foundation is. As Bina states, "given the growing investments of governments, and multilateral and bilateral agencies, throughout the developed and developing world aimed at institutionalizing SEA, it seems imperative to take stock of developments to date, so as to deepen our understanding about the kind of phenomenon SEA is and should be."[19] The aim of this thesis is to begin to fill in the gap between SEA literature and the understanding of its integration into institutional frameworks, specifically in Norway's petroleum sector.

[17] Olivia Bina, "A Critical Review of the Dominant Lines of Argumentation on the Need for Strategic Environmental Assessment," *Environmental Impact Assessment Review* 27 (2007): 586.
[18] C. Fidler and B. Noble, "Advancing Strategic Environmental Assessment in the Offshore Oil and Gas Sector: Lessons from Norway, Canada, and the United Kingdom," *Environmental Impact Assessment Review* 34 (2010): 13.
[19] Olivia Bina, "A Critical Review of the Dominant Lines of Argumentation on the Need for Strategic Environmental Assessment," *Environmental Impact Assessment Review* 27 (2007): 586.

2.3 SEA: Current Analysis

Most analyses of SEA in Norway have focused on historical accounts, since the literature has typically focused on a particular project or specific incident to analyze the application of SEA. There is little research that outlines the development of SEA with historical context or that compares SEA across international borders, mainly because there is an absence of literature discussing how SEA has emerged in policy and planning frameworks. This thesis will seek to address this gap in the Norwegian context, by examining the context in which SEA has emerged in Norway's offshore oil and gas sector. Situating its context will provide a starting point for further comparative analysis of SEA in offshore oil and gas research.

Slootweg and Jones discuss the need for more attention to the institutionalization of SEA. In their research, they outline the opportunity for resilience thinking, which represents the capacity of a system to undergo change while still retaining its basic function and structure, to be incorporated within the application process of SEA. However, these scholars point out that in order for such a change to occur, further SEA research is required to understand its integration into institutional frameworks. For example, they state, "institutional context has traditionally been a weak aspect of SEA…at a more strategic planning level the planned actions are more abstract, and the direct relationships between these actions and concrete impacts is more difficult to identify and describe."[20] SEA literature needs to explore at a deeper level the foundations of SEA and to show how its integration into governance frameworks translates into concrete actions at the plan and programming level.

In addition, Tetlow and Hanusch reiterate the importance of understanding the context in which SEA is being institutionally applied. They observe, "informed by collaborative planning theory, it was argued that SEA practitioners must understand the decision-making processes within which they operate."[21] Each decision-making process is shaped by factors such as political, economic, social, and cultural issues, in addition to

[20] Roel Slootweg and Mike Jones, "Resilience Thinking Improves SEA: A Discussion Paper," *Impact Assessment and Project Appraisal* 29:4 (2011): 273.
[21] Monica Fundingsland Tetlow and Marie Hanusch, "Strategic Environmental Assessment: The State of the Art," *Impact Assessment and Project Appraisal* 30:1 (2012): 15.

the institutional framework. Teltow and Hanusch explain that there is no one-size fits all in the SEA approach; thus, the tool is modified to the particular context and institutional framework under which it is being applied.[22] Greater focus has to be directed to understanding the context in which SEA is being used, which in turn will make it a more effective tool. As the scholars point out, understanding the context can assist in better addressing fragmentation and miscommunication over responsibility in the implementation and monitoring phases.[23] To gain an understanding of the context wherein SEA is being applied and its institutionalization in Norway's oil and gas sector, a historical institutionalist approach proves most illuminating.

2.4 Analytical Framework: Historical Institutionalism

Historical institutionalism emerged as scholarly approach for understanding how state capacity and policy legacies structured certain political outcomes. For example, Skocpol set out to explain the different revolutionary outcomes among the great French, Russian and Chinese revolutions. Skocpol's comparative historical analysis discovered that the state institutions in the pre-revolutionary period had a significant impact on each nation's revolutionary outcome. Furthermore, Skowronek argued that the preindustrial institutions inherited by America explained the fragmentation and disjointedness existing in America's current federal government.[24] There are numerous examples that exist in which scholars view historical contexts and institutional structure as powerful explanatory mechanisms for understanding political behaviour and policy outcomes.[25]

There are two components to a historical instituionalist explanation: history and institutions. In particular, the approach highlights the importance of using context and institutions to explain policy outcomes. The aim of this section is to focus first on why history is important, and secondly, to ask why institutions matter in the examination of

[22] Ibid., 21.
[23] Ibid.
[24] Craig Parsons, *How to Map Arguments in Political Science* (Oxford University Press, 2007), 86.
[25] Peter A. Hall, *Governing the Economy* (New York: Oxford University Press, 1986); Peter J. Katzenstein, *Between power and plenty: Foreign economic policies of advanced industrial states* (University of Wisconsin Press,1978); Theda Skocpol, *States & Social Revolutions: A comparative analysis of France, Russian, & China* (Cambridge University Press, 1979), Stephen Skowronek, *Building a New American State: The Expansion of National Administrative National Administrative Capacities 1877-1920* (Cambridge University Press, 1982).

strategic environmental assessments in Norway's hydrocarbon sector. The approach views history and politics as a dynamic process that is constantly evolving. Institutions provide the context in which political actors define their strategies and pursue their interests, and the historical analysis leads to reasons that certain strategies and interests are emphasized over others. It is this notion that earlier choices set out a certain path that leads to present policy outcomes which divides historical institutionalist and rational choice scholars.

For example, Steinmo set out to understand why some countries had larger welfare states than others. His original proposition was that it could be explained through political culture or public preference; however, he found through an historical examination that differences lay within the variation of political institutions. Steinmo writes, "Detailed historical analysis of several cases brought to the conclusion that the very different political institutions through which public and elite preferences were translated into policy had enormous effect on the structure of actual tax policy outcomes."[26] Similarly, Hattam wanted to explain the weakness of labour movements in the United Sates in comparison to Britain's strong labour influences. Hattam originally thought political culture would explain the differences between the US and Britain, but discovered through a historical analysis that fragmentation in US political institutions, not its political culture, explained the weakness of its labour movements.

At its core, historical institutionalsim is an approach that seeks to understand the way in which institutions structure and shape political behavior and outcomes. Its focus is on institutions, as well as how they emerge from and are embedded in, temporal processes. Herein, alternative explanations, such as structural, ideological and psychological perspectives are not chosen because theses frameworks do not account for the important role history plays in understanding the emergence of SEA in Norway's current petroleum sector.

For example, psychological explanations tend to focus on the individual, arguing that people are hard-wired to choose certain actions over others. Parsons explains that psychological explanations are, "prior to other logics, showing the hard-wired

[26] Sven Steinmo, "Chapter 7: What is Historical Institutionalism?" in *Approaches and Methodologies in the Social Sciences: A Pluralist Perspective,* ed., by Donatella Porta and Michael Keating, (Cambridge, UK, 2008), 120-21.

dispositions that people have 'before' they are set down in structural, institutional, and/or ideational settings."[27] Thus, this theory is limited as an explanatory approach for Norway, since its abstractness makes it intangible for explaining real political action in comparison to institutional or structural arguments. The explanation for change does not take into account prior actions, or policy legacies that influence the choices current actors take. This notion of path-dependency is an important element in explaining the integration of strategic environmental assessments in Norway.

Understanding the historical context of Norway's petroleum industry is important to the analysis of the way SEA emerged and currently operates. Structural explanations tend to avoid a historical approach, as the explanation for change is not rooted in history, but is the result of an actor's position in a material landscape. From this perspective, people are rational actors whose actions are influenced by external environment features such as geography, wealth, and power; if the external environment is altered, then the actor's actions will change as well. For example, Parsons states, "its core logic explains people's choices as a direct function of their position in a 'material' landscape."[28] From this perspective, institutions are viewed as self-enforcing, balanced in an equilibrium where change occurs through an exogenous shock or shift, such as the collapse of the economy or a war. The tendency is to view institutional change as neither internal, incremental, or adaptive.

Arguably, in Norway, the inclusion of SEA into petroleum policies is the result of historical and institutional influences. From such a premise, the competing institutionalist approaches of rational choice and sociological institutionalism are not suitable explanatory approaches. For example, rational-choice institutionalists argue that institutions are man- made constraints, in which rational individuals frame their behaviour in an effort to maximize personal or individual gain. Thus, individuals are not bound by previous historical choices; as Parsons further explains, "they are not maintaining a pattern because prior choices led them to commit resources in ways that are now hard to alter. They stay at equilibrium as long as current exogenous pressures make

[27] Ibid., 136.
[28] Craig Parsons, *How to Map Arguments in Political Science* (Oxford University Press, 2007), 61.

it their best choice."[29] Although this approach may explain why people choose a certain action, it lacks the ability to explain why patterns of collective action persist or why they arise. Historical institutionalists argue, by contrast that these actions can be explained through a historically based analysis. Thelen and Steinmo explain, "by taking the goals, strategies, and preferences as something to be explained, historical institutionalism reveals that unless something is known about the context, broad assumptions about self-interested behaviour are empty."[30]

This emphasis on historical context also suggests reasons that this approach is valuable for understanding the incorporation of SEA in Norway's petroleum framework. Nordic democracy emerged differently from Anglo, American, or continental European democracy. Castles argues this point, stating that a nation's unique historical and cultural heritage is imperative to understanding their political institutions and policies. As Castles states, "To understand its impact [history and culture] on contemporary politics requires not merely an account of cultural attitudes, but an explanation of the structural milieu in which they arose and the structures and institutions which perpetuate their influence."[31] Thus, context is important, and it is important in understanding the integration of SEA in Norway's oil and gas industry.

At the other end of the spectrum is the sociological institutionalist approach. Scholars in this stream argue that institutions represent a set of social norms that govern everyday interactions. As Parsons explains, "People maintain such patterns not because it is just less costly…but because they have difficulty imaging other behaviours, or because they see other behaviours as illegitimate."[32] Historical institutionalism does encompass this perspective of institutions establishing social norms; however, it also acknowledges that individuals are rational actors who will seek to alter institutions to maximize their own interests. Historical institutionalism goes a step further to state that even rational actors will, "find themselves captive to some unintended consequences of past action."[33] The logic of path dependency is at the core of a historical institutionalist approach, and

[29] Ibid., 77.
[30] Kathleen Thelen and Sven Steinmo, "Historical Institutionalism in Comparative Politics," in *Structuring Politics: Historical Institutionalism in comparative analysis* ed., Sven Steinmo, Kathleen Thelen and Frank Longstreth (Cambridge University Press, 1992), 15.
[31] Francis G. Castles, *The Social Democratic Image of Society* (Routledge & Kegan Paul, 1978), 133.
[32] Craig Parsons, *How to Map Arguments in Political Science* (Oxford University Press, 2007), 75-76.
[33] Ibid., 87.

demonstrates why it is suited for explaining the integration of SEA into Norway's offshore petroleum sector.

This consideration diverges from psychological and structural perspectives, arguing that institutions fundamentally emerged out of unintended legacies of past choices, not simply from adaptations to material or external factors. Additionally, institutions play a role in incrementally integrating specific environmental strategies that have been adopted over time in Norway's petroleum industry. As this thesis will discuss, the establishment of the Norwegian model of oil governance influenced the nation's ability to later on down the road adopt stricter environmental strategies.

To understand and explain institutional change, historical institutionalists use the logic of path dependency. Path dependency is a notion that focuses on self-reinforcing events, or on the idea that what happened at an earlier time will affect the possible outcomes of a sequence of events occurring at a later point. As Pierson states, "initial moves in a particular direction encourage further movement along the same path."[34] Once a path is chosen, the cost of reversal is high; thus, path dependency generates self-reinforcement sequences. The cost of reversing the path is too high with each move down that particular path of choice. In sum, choices made earlier on set into motion constraints that effect political actions later on down the road. It is through incremental and gradual alterations that the current institutional context has emerged.

Incrementalism, explains Atkinson, in summarizing Charles E. Lindblom, means "decision- makers who must respond to problems in the absence of certainty regarding outcomes or agreement over core values, will typically engage in a local search for options. This search results in small adjustments from the status quo premised on what is practical and what is possible."[35] As stated earlier, Thelen and Streeck view incremental changes as occurring through modes of gradual transformation such as layering (building upon previous policy legacies), or adaptation to existing policies. As such, new dynamics are set in motion by the introduction of new amendments, refinements, or correctives to the *status quo*. Historical institutionalism advocates the view that change within

[34] Paul Pierson, "Not Just What, but *When:* Timing and Sequence in Political Processes," *Studies in American Political Development* 14 (Spring 2000), 74.
[35] Michael M.Atkinson, "Lindblom's Lament: Incrementalism and the Persistent Pull of the Status Quo," *Policy and Society* 30:1 (2011), 11.

institutions is not easy. If change occurs, it is most likely not an abrupt radical change, but rather a gradual change. Reforms are typically piecemeal, or incremental, characterized as a long-term accumulation of small changes that take place in different interacting processes. For the purpose of this discussion, incrementalism is applied to explain change as a gradual process, in which policy outcomes as a result of institutional dynamics do not veer far from the *status quo*.

However, historical institutionalism tends to focus on the context of policy change, particularly by using history to explain why certain policies arise; it considers how institutional rules shape the course of policies over time, often glossing over reasons that certain issues appear in the policy agenda. Historical institutionalism has come under criticism from scholars such as Beland, Schmidt, and Liberman, with its limitations in explaining how certain political issues and problems become priorities and make it into the policy process. In other words, why do policy makers choose certain issues, why do they select certain content in policy proposals, and why do they accept particular policy alternatives over others?

To address this gap within historical institutionalism, Beland advocates for addressing the role that ideas play within institutional and political conditions.[36] Beland argues that "political institutions create constraints and opportunities for those involved in policy-making,"[37] but that additionally institutions foster the norms and values that influence instrument choices and policy processes. However, he argues that to rely solely on policy legacy, and history as the explanations for policy change occurring within these institutions fails to explain why certain issues are chosen, or why alternative policy solutions are accepted over others. As Beland contends, "to understand the meaning and the scope of policy choices, these researchers must bring ideas to the centre of their theoretical framework."[38]

An ideational perspective offers further insight to address this explanatory gap. This perspective advocates that ideas, beliefs, and cultural or social identities influence a person's thinking and direct decision makers towards certain actions. As Parsons

[36] Daniel Beland, "Ideas and Social Policy: An Institutionalist Perspective," *Social Policy & Administration* 39:1 (February 2005): 2.
[37] Ibid., 3.
[38] Ibid., 4.

explains, "a logic of interpretation claim explains by showing that someone arrives at an action only through an interpretation of what is possible and/or desirable."[39] Ideational arguments often use political culture, identities, and norms as modes of explaining what is desirable and why certain actions occur. Parsons suggests that this framework can be used to explain policy changes; however, Beland argues that ideas, norms, and identities alone cannot explain policy change because ultimately, historical context and the institutions shape the policy outcomes, but that ideas can help to elucidate how certain issues get into the policy agenda.

Beland argues that applied within the framework of historical institutionalism, the ideational perspective provides explanatory insight into how the norms and values embedded within the Norway's petroleum institutions impact decisions on issues to be addressed in the policy process. As Beland writes, "among the theoretical tools associated with historical institutionalism, the concept of social learning is the one that favours the most direct reference to the role of ideas in policy-making."[40] Following a historical approach will help one to understand better the political culture, norms, and values of the Norwegian institutions governing offshore oil and gas actions.

These examples illustrate the importance of including the historical context when seeking to explain policy or political outcomes and consequences. Furthermore, as Parsons comments, "Even the basic sense of ideational explanation requires attention to boundaries with other logics."[41] Ideas are important, but they are framed within particular historical and institutional contexts. For Norway, historical and political context especially its Nordic heritage is important in understanding how SEA emerged and how Norway's institutions employ it as a policy tool in offshore oil and gas operations.

[39] Craig Parsons, *How to Map Arguments in Political Science* (Oxford University Press, 2007), 13.
[40] Ibid., 4.
[41] Craig Parsons, *How to Map Arguments in Political Science* (Oxford University Press, 2007), 98.

2.5 Summary

As SEA continues to be used by governments and agencies, it is important to understand the context and framework under which it is being applied.[42] A historical institutionalist approach can deepen the understanding of the way SEA is integrated and understood as a policy tool in Norway's petroleum sector. Norway's Nordic approach and perspective toward offshore resource development established the foundation for institutions to take a strategic approach in adopting policies and plans aimed at the environmental management of offshore oil and gas. With the theoretical foundation outlined, the next chapter will examine the historical integration of SEA; SEA is the result of path dependency, as earlier decisions about the direction of Norway's offshore petroleum sector shaped the present conditions.

[42] Olivia Bina, "A Critical Review of the Dominant Lines of Argumentation on the Need for Strategic Environmental Assessment," *Environmental Impact Assessment Review* 27:7 (October 2007): 586.

CHAPTER THREE
Phases of SEA Development

3.1 Introduction

Norway's environmental management of offshore petroleum operations embodies the result of path dependency on the nation's distinct economic, cultural, and political history. Historical context and institutional dynamics played an important role in the integration of SEA in Norway's oil and gas sector. Understanding the historical context under which Norway's petroleum industry matured and in which SEA evolved is fundamental to understanding the influence SEA holds in Norway's current oil and gas framework. Explaining the Nordic model of nation building shows how it led to the gradual incorporation of SEA in the petroleum sector.

3.2 Institutional Context: Nordic Model

Norway is composed of a small, relatively homogenous population numbering just under five million residents. This demographic composition influenced the type of democracy and nation-building strategies that emerged. As Heidar writes, "A broadly homogenous culture underlay the nation-building of the nineteenth century…married to the political struggle was a cultural campaign to integrate the people into the state institutions and create a national identity."[43] The democracy and nation-building strategies are important to understanding the integration of SEA into Norway's petroleum industry.

Norway's political system, as the Norwegian Polar Institute observes, is a "political system that includes a strong tradition for participation of organized interests in the formulation and execution of public policies, a comparatively high degree of centralization of decision- making power, and a relatively consensual political process

[43] Knut Heidar, "Chapter 1: State and Nation-building in the Nordic Area," in *Nordic Politics: Comparative Perspective* ed., by Knut Heidar (Oslo: Universitetsforlaget, 2004), 16-17.

where differences between political parties may be difficult to discern from abroad."[44] Within comparative historical literature, this political dynamic is described as the "Scandinavian model," and used by scholars to explain why the Nordic nations have developed a different style of governing. Their institutions produce distinctive policy outcomes in areas such as foreign policy, health care, taxation, and in this case, petroleum policies.

The Scandinavian model argues that Nordic states have histories, cultures, and social structures distinct from both the Anglo-American and the Continental European patterns; differences are consequently reflected in their political institutions and policies. Heidar describes this "Nordic-ness" as a history of shared linguistic, religious, and political ideologies of the Nordic countries.[45] Furthermore, Knudsen and Rothstein argue that the model reflects states that are "strong and closely integrated with society by means of strong local governments and popular organizations, a tradition of consensual democracy, multiparty systems with strong social democratic and agrarian parties, high welfare ambitions expressed in institutional rights linked to citizenship…"[46] The integration of people into the state institutions is achieved through the consensus style of democracy adopted in Norway, wherein society can readily impact policy.

This style of democracy differentiates it from the traditional Westminster model that characterizes nations such as Britain and the U.S. In the Westminster model, a solution to diverging preferences and disagreements is accomplished through majority rule. Lijphart explains, "government by the majority and in accordance with the majority's wishes comes closer to the democratic ideal than government by and responsive to a minority."[47] However, at the time Norway was emerging as a democratic nation, the cultural and societal landscape required a political structure that could integrate all citizens into the policy process without the potential of their being excluded by the majority. Heidar explains, "they campaigned against foreign powers and state-sanctioned, 'foreign' culture of the dominant elites…they advocated a political program

[44] Norwegian Polar Institute, accessed February 24, 2011. http://www.regjeringen.no/en/dep/md/about-the-ministry/Subordinate-agencies/the-norwegian-polar-institute.html?id=85703
[45] Knut Heidar, "Chapter 15: Comparative Perspective on the Northern Countries," in *Nordic Politics: Comparative Perspective* ed., by Knut Heidar (Oslo: Universitetsforlaget, 2004), 263.
[46] Tim Knudsen and Bo Rothstein, "State Building in Scandinavia," *Comparative Politics* 26:2 (1994): 217-218.
[47] Arend Lijphart, *Democracies: Patterns of Majoritarian and Consensus Government in Twenty- One Countries* (Yale University Press, 1984), 4.

where nationhood converged with national independence and a role for the citizen in a new polity."[48] Thus, a consensus form of democracy emerged. As Lijphart further remarks this model differs from the traditional Anglo-American form of democracy in that it, "includes rather than excludes, and that tries to maximize the size of the ruling majority instead of being satisfied with a bare majority."[49] Lijphart identifies eight components of a consensus model: "1) executive power-sharing in broad coalition cabinets; 2) separation of powers, formal and informal; 3) balanced bicameralism and minority representation; 4) multiparty system; 5) multi-dimensional party system; 6) proportional representation; 7) territorial and non-territorial federalism and decentralization; 8) written constitution and minority veto."[50] In Norway, multiparty system and the ability of these multiple parties to reach a consensus on complex political issues reflects the relative homogeneity of its culture. The consensus mode of politics has allowed an easier integration of environmental assessment strategies in Norway's offshore petroleum sector.

Castles set out to find an explanation as to why the Social Democrat party dominated politics in Scandinavian nations: he attributes it to the absence of a substantial minority and to the lack of religious, philosophical, and ideological divides amongst the nations because of their historical and cultural heritage. As he writes, "the absence of significant religious, deferential and ideological divisions within the working class is the single most important cause of the Scandinavian Social Democratic parties' consistently high level of electoral support."[51] This point is significant, as it speaks to the impact that the Scandinavian history of state- building has on their contemporary politics. In particular, the infirmity of this historical context has impacted the integration of SEA in Norway's petroleum sector.

Castles uses Moore's historical approach to outline the distinctive path of political development in Nordic nations. Castles argues that the Scandinavian nations transitioned into functioning industrial democracies without massive revolutions and this with the peasantry class still in existence. Castles contends that this historical evolution explains

[48] Ibid., 17.
[49] Arend Lijphart, *Democracies: Patterns of Majoritarian and Consensus Government in Twenty- One Countries* (Yale University Press, 1984), 23.
[50] Ibid.
[51] Francis G. Castles, *The Social Democratic Image of Society* (Routledge & Kegan Paul, 1978), 111.

why the Nordic nations have emerged as a consensus model of democracy, reflected today in different approaches to issues such as health care and the economy in comparison to other Western nations. Castles' examination of the differences in the rise of democracies revealed that, in Scandinavian countries, democratic institutions remained inclusive political bodies, representing the entire population; even the peasantry class was given representation within the governing bodies, giving rise to the consensus style of democracy. Practices were not the same in other Western democracies at the time. Significantly, such political representation reveals the value Scandinavian countries place on inclusivity of the populous in policy decisions.

Norway's history can help explain the nation's incorporation of SEA over time in its offshore oil and gas sector. This sense of cohesiveness and consensual democracy are pivotal elements in the integration of SEA into Norway's petroleum policy framework: agreement among multiple parties involved in the environmental management of Norway's offshore oil and gas sector continues to be reached, allowing plans of offshore petroleum development to expand further into the Arctic.

Similarly, Fischer compared the approaches of Norway and the U.K's integration of environmental impact assessments into their North Sea oil development. He concluded that it is the difference in historical and institutional development that explains the differing approaches. As Fischer states, "Each country's unique history, its current economic condition, and its orientation toward planning provide the background for its assessments of environmental impacts in the coastal zone."[52] In reference to specific decisions regarding petroleum policy and the integration of environmental strategies, Fischer notes that the political consensus and the "homogenous background of the bureaucrats," minimize conflicts, allowing for easier integration of environmental strategies.[53]

Norway's Scandinavian roots and culture are the norms and ideas that are embedded within the nation's bureaucratic institutions. In *Unique Environmentalism: A Comparative Perspective,* Grendstad *et al.* analyze the emergence of environmentalism and environmental beliefs in Norway's political system. They argue that

[52] David W. Fischer, "A Comparison of Approaches to Assessing the Impacts of North Sea Oil in the United Kingdom and Norway," *Environmental Impact Assessment Review* 4: 3-4 (December 1983): 434.
[53] Ibid., 449.

environmentalism in Norway differs from Western democracies because of the country's specific political culture, in combination with the state structure.[54] In particular, throughout history, Norway experienced lower levels of urbanization; this impacted the nation's political culture, as citizens remained self-sufficient as a part of local living. Thus, citizens relied on the government to protect the natural resources upon which they were still dependent. Additionally, Norway's democratic framework emerged with the tradition of including adversary actors or interests in its national politics. This point reiterates Castles, and Heidar's arguments that inclusiveness of citizens into decision-making frameworks underpins the foundation of a consensus style of democracy.

Thus, as Grendstad *et al.* point out, environmentalism is embedded within Norway's political culture, included by a state structure (consensus democracy) that allows for the integration of environmental issues in national politics and policy circles. As Grendstad *et al.* state, "at the end of the almost 40 odd year period, (which the authors analyzed), environmental politics has become an integral part of politics in general."[55] The idea of incorporating the environment into the political agenda is an integral part of Norway's policy process.

It will be illustrated throughout this thesis that the institutions involved in Norway's offshore oil and gas administration encompass values and ideas that consider environment as an important part of the policy process. As the authors Grendstad *et al.* point out, "in Norway, the years between 1970-1975 have been called 'The Golden Age of Environmentalism."[56] It is during this era that the Ministry of Environment and the Ministry of Petroleum and Energy both became formally established bureaucratic structures in Norway. These institutions continue to play important roles in the integration of environmental issues and concerns in Norway's petroleum policy framework. Even as Norway's top ministry for petroleum affairs (the Ministry of Petroleum and Energy) has switched political hands over the years, the preservation and sustainability of the environment has remained a top political priority.[57] Although, over

[54] Grendstad *et al..Unique Environmentalism: A Comparative Perspective*, (New York: Springer Science + Business Media, 2006), 1.
[55] Ibid., 48.
[56] Ibid., 39.
[57] Ministry of Petroleum and Energy, "Draft Resolutions, Bills and White Papers," accessed January 5, 2013, http://www.regjeringen.no/en/dep/oed/documents-and-publications/propositions-and-reports.html?id=780.

the decades, Norway's institutional perspective of environmental protection has shifted from nature conservation to "economic growth with preservation," environmental issues remain on the political agenda.[58] The stage was set for the integration of environmental management strategies, such as SEA, in Norway's offshore oil and gas sector.

3.3 Pre 1972 Era: "Norwegian Model"

On June 26, 2012 at the International Conference on Petroleum Activities in the Arctic, Minister Moe of Petroleum and Energy stated in his opening address, "Norway was a developed, mature nation when we first discovered oil…we had foresighted politicians, who decades ago laid the foundations for our present petroleum policy."[59] In this statement, Minister Moe acknowledges the importance that early historical political decisions had for the establishment and shaping of Norway's petroleum administration. These early decisions put the nation on a trajectory that led to the "Norwegian Model" of oil governance, creating the foundation of subsequent policies that would direct the industry to incorporate strategic environmental assessment strategies.

The administration of Norway's petroleum sector enables policies to adapt to meet current international, regional, and local environmental demands. At the time Norway began to design and develop its oil and gas institutional framework, two theories existed as blueprints to guide nations in structuring their governing style for national oil policies. The first was the concessionary model, which advocated for decision-making authority over oil and gas development to be predominantly at the discretion of the international oil companies. The second was the state model, which allows governments to maintain control and to organize exploration and production either through an administrative agency or a state oil company. From a history of adaptability, Norway chose to create its own model.

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[58] Grendstad *et al..,Unique Environmentalism: A Comparative Perspective*, (New York: Springer Science + Business Media, 2006), 48.

[59] Ola Borten Moe, "Sustainable Petroleum Activities in the Arctic," (speech, Trondheim, Norway, June 26 2012), Arctic Energy Roundtable – Sustainable Petroleum Activities in the Arctic, accessed November 20, 2012, http://www.regjeringen.no/en/dep/oed/whats-new/speeches-and-articles/the_minister/speeches-and-articles-by-the-minister-of-2/sustainable-petroleum-activities-in-the-.html?id=691789.

Globally, offshore oil and gas emerged in the 1920s with exploration and drilling in the Gulf of Mexico.[60] Production facilities were situated largely in tropical climates, characteristic of warm, accessible, shallow waters. By the 1940s, as technology evolved, offshore oil and gas activity started to expand farther offshore.[61] Production platforms adapted to withstand harsher oceanic climates, such as strong winds, high waves, and cooler temperatures. However, exploration remained limited to regions with subtropical climates, leaving the Arctic's energy resources undeveloped. Over time, as a result of multiple factors such as the warming of the Arctic climate, increasing access to previously ice-covered areas, increasing instability of the Middle East, growing global energy consumption, and advancing offshore technology, the search for petroleum has moved further into the Arctic.

In 1962, Phillip Petroleum, an international oil company, approached the Norwegian government about obtaining exclusive business rights over the Norwegian Continental Shelf (NCS).[62] The country rejected the bid by Phillip Petroleum, as Norway wanted to develop its natural resources on its own terms.[63] Norway, as Thurber and Istad argue, entered its oil era with the significant advantage of possessing a highly developed bureaucracy with previous experience regulating natural resource industries like hydropower, fishing, and mining.[64] Realizing this advantage, the government directed bureaucrats to develop and build up an administration that would have the competency to govern offshore oil and gas operations.[65]

The state model failed to suit Norway because, as Noreng's comparative analysis between Norway and the U.K.'s development of offshore oil in the North Sea explains, the state model is based upon private companies being given *de facto* control over large areas and being sovereign in questions of development and exploration.[66] The model is traditionally found in oil nations that are institutionally too weak to take full control over

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[60] Noreng, Oystein, *The Oil Industry and Government Strategy in the North Sea* (London: Croom Helm, 1980), 17.
[61] Ibid.
[62] Mark C. Thurber and Benedicte Tangen Istad, "Norway's Evolving Champion: Statoil and the Politics of State Enterprise," *Program on Energy and Sustainable Development: Working Paper #92* (Freeman Spogli Institute for International Studies, May 2010), 10.
[63] Ibid., 11.
[64] Mark C. Thurber and Benedicte Tangen Istad, "Norway's Evolving Champion: Statoil and the Politics of State Enterprise," *Program on Energy and Sustainable Development: Working Paper #92* (Freeman Spogli Institute for International Studies, May 2010), 10.
[65] Ibid., 10-11.
[66] Ibid.

development and exploration. For example, a majority of developing nations (i.e., OPEC nations) adheres to this mode of governance.

The act of conceding power to foreign oil companies, as proposed in the model, did not appeal to the Norwegian government. Norway's democratic institutions were already fully matured and very capable of managing projects on an international scale. Oystein argues that both the United Kingdom and Norway in the 1960's rejected the concessionary system, for these nations wanted greater control to dictate the pace of exploration, development, and depletion policies.[67] However, the Norwegian government did acknowledge at the time that it lacked technical expertise: thus, assistance from international oil companies was needed to help Norway build up capacity in offshore oil and gas technology.[68]

Alternatively, the concessionary model allowed oil and gas operations to be directly organized by either the government or by state-owned oil companies. However, a limitation for Norway at the time was that the government had insufficient knowledge of offshore oil and gas technology and experience in running day-to-day operations to solely control the oil and gas process themselves. Thus, the experience of the international oil industry was needed.[69] With neither model being a fit for offshore operations in Norway's arctic, the government sought to forge a new framework.

This new model had a deterministic impact on the way that the Norwegian petroleum sector incrementally evolved to its current form. Norway combined elements from both approaches to create what the literature coins as the "North Sea Model," more commonly referred to as "The Norwegian Model."[70] The framework promotes a strong centralization of power within a federal administration. A degree of autonomy is given to oil companies to manage day-to-day operations, but they remain accountable to the central government through monitoring conducted by the Norwegian Petroleum Directorate. Additionally, the state-owned oil company, Statoil, would work in co-operation with privately owned oil companies.

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[67] Oystein Noreng, *The Oil Industry and Government Strategy in the North Sea* (London: Croom Helm, 1980), 14.
[68] Ibid.
[69] Ibid., 32.
[70] Mark C. Thurber and Benedicte Tangen Istad, "Norway's Evolving Champion: Statoil and the Politics of State Enterprise," *Program on Energy and Sustainable Development: Working Paper #92*, (Freeman Spogli Institute for International Studies, May 2010), 21.

3.4 The Norwegian Model

A high number of petroleum nations had on-land oil facilities at the time of Norway's petroleum discovery and thus were familiar such industries operation. Norway, in contrast, had to create a relationship with the international oil industry because the country had minimal technical expertise with this kind of development. Additionally, ocean conditions presented a different challenge than that faced by offshore operations in subtropical regions, such as lower water temperatures and volatile and unpredictable weather, that made construction costly and difficult.[71] Water depths and weather conditions make the North Sea (especially its northern parts) quite different from, for example, the offshore Gulf of Mexico. Drilling in an Arctic climate was a new concept to the Norwegian government; thus, they wanted to take time to develop its petroleum administration and policies.[72]

Norway's consensual democracy, along with its economic and energy stability at the time of its offshore development, allowed the nation to gradually construct its oil and gas regime. Visher and Remoe argue that Norway's political culture and economic climate, at the time of its oil discovery, allowed the nation to develop a "go-slow" approach to oil development.[73] They go on to state: "In a crucial sense, neither the state nor Norwegian industry really needed this new source of energy for immediate, domestic consumption. This suggests that the state literally had time to 'go slow,' both in formulating policies and in assisting in the development of the sector."[74] This perspective toward oil development allowed greater consideration of external factors, such as the potential impact development could have on the environment, allowing proper mitigating strategies to be formulated.

This perspective is reiterated by Earney, who compared the establishment of the U.K. and Norwegian national oil companies and their influence on oil development in the North Sea. Earney observes that Norway took a more cautious approach to oil development, attributing this situation to the country's smaller size and relatively stable

[71] Oystein Noreng, *The Oil Industry and Government Strategy in the North Sea* (London: Croom Helm, 1980), 14.
[72] Ibid.
[73] Mary G. Visher and Svend O. Remoe, "A Case Study of a Cuckoo Nestling: The Role of the State in the Norwegian Oil Sector," *Politics Society* 13 (1984): 326.
[74] Ibid.

economic condition at the time the industry was emerging. Earney notes, "They [UK and Norway] have approached the task somewhat differently, in part because of their differences in population size, overall energy self-sufficiency, petroleum dependence and industrial and institutional structures…overall, Norway has been: first, more cautious than has the UK in the speed of developing its offshore petroleum…"[75] This cautious approach to resource management proved beneficial; the country was able to fund bureaucrats to learn as much as possible about the oil industry, giving Norway the competence to develop policies that suited the country's needs.

Similar to Visher and Remoe, Earney, Lind and Mackay also comparatively examined the Norwegian and the U.K's approach toward development of oil and gas in the North Sea. The main difference between the offshore oil operations, these scholars found, stemmed from the variation in historical context under which each offshore system matured. At the time Norway was developing its offshore facilities in the North Sea, the nation was financially stable, able to meet its current energy demands, and had strong institutions, allowing for an incremental approach toward oil and gas extraction.[76] However, the U.K. needed the resources to keep up with its energy demands; thus, the nation developed its oil infrastructure at a faster rate.[77] Quickening the process led to costly changes in the long term, for extra funds had to be allocated to upgrading infrastructure to meet the rapidly changing environmental standards. Lind and MacKay attribute historical social and economic variances between Norway and the U.K. to the different outcomes in policy concerning the pace of development in the North Sea.

In 1970, the "Norwegian Model" of oil governance emerged and today's current administration has not changed far from the status quo; it still reflects the original institutional framework created in 1970. At this time, a committee was appointed with the task of revising the central government's oil administration. Its recommendations were accepted in 1972, creating three main bodies:

[75] Fillmore C.F. Earney, "The United Kingdom and Norway: Offshore Development Policies and State Oil Companies," *Ocean & Coastal Management* 18 (1992): 250-251.
[76] T. Lind, and G.A. MacKay, *Norwegian Oil Policies* (Montreal: McGill- Queen's University Press, 1979): 10.
[77] Ibid.

- Ministry of Industry (now under the responsibility of the Ministry of Petroleum and Energy): responsible for general policy and strategic aspects.
- Norwegian Petroleum Directorate (NPD): responsible for day-to-day control and administration.
- Statoil: a state-owned oil company to take care of the business interests of the State (at the time was 100% state owned, currently less)[78]

The pre-1972 era was primarily focused on establishing Norway as an oil nation within the international market and ensuring that proper infrastructure was in place. It is the separation of policy, regulatory, and commercial functions in Norway's oil and gas administration that has sparked interest within the international community. As Thurber *et al.* point out, this model, particularly its requirement that only the national oil company carry out commercial activities, has inspired "admiration and imitation as the canonical model of good bureaucratic design for the hydrocarbons sector."[79] Today's current oil and gas administration still resembles this establishment. The national oil company must own a percentage of the operation; in addition, a certain number of Norwegian contractors must be employed in the development, production, and processing phases. The institutional foundation created by the Norwegian oil governance model has upheld over time and continues to represent the present day bureaucratic management of Norway's oil and gas sector.

The nation's distinct history, culture, and social structure are reflected in the political institutions and policies that make up the Norwegian model of oil governance. The concentration of power over the policies, regulation, and economic development of petroleum operations, as reflected in the institutions established is representative of Norway's strong and closely integrated society. This social and political cohesiveness in offshore oil and gas management is also what allowed for the integration of SEA.

[78] Kjelll Stenstadvold, "Regional and Structural Effects of North Sea Oil in Norway," *Geojournal* (1977): 72; International Energy Agency, *Energy Policies of IEA Countries: Norway 1997 Review* (France: OECD, 1997), 37.
[79] Mark C. Thurber, *et al.,* "Exporting the 'Norwegian Model': The Effect of Administrative Design on Oil Sector Performance," *Energy Policy* 39 (2011): 5366.

3.5 Introduction of EIA: 1972 – 1997

Historical institutionalist scholars Thelen and Steinmo note, "an institution is more than only an organizational structure, it is about historically grown and solidified rules, values, norms and patterns."[80] This declaration is true in the case of Norway's oil and gas infrastructure, as it has matured in a manner that reflects the nations Nordic cultural values and norms. Noreng writes "The political weight of the fishermen and the coastal population explains why Norway has given a high priority to the protection of the environment ever since oil production started."[81] After 1972, the focus of the Norwegian petroleum administration turned to greater development of its oil and gas policies. During 1972 – 1997, Norway expanded its ability to advance its offshore oil and gas operations farther into the North, while utilizing policies to the mitigate environmental impact. Ultimately, a balance between the expansion of offshore operations and environmental preservation was achieved through the gradual integration and adaptation of SEA strategies within Norway's petroleum framework.

Norway's oil and gas administration encompasses the rules, values, and norms of the Norwegian society. This quality is evident in early policies, which consider the potential impact an offshore development could have on the environment prior to the approval of a project. Thus, a form of strategic decision-making was already taking shape, even though no explicit legislation required it. In 1972, the Norwegian government accepted the "10 Oil Commandments" submitted by the Standing Committee on Industry, which became the underpinning principles of Norwegian oil policy. The Commandments are significant from a historical institutionalist standpoint, as they initiated the integration of SEA into Norway's oil and gas governance framework. Related concepts, such as EIAs, REIAs, and IMPs, have stemmed from these commandments, one of which states, "the development of an oil industry must take place with necessary consideration for existing commercial activity, as well as

[80] Kathleen Thelen and Sven Steinmo, "Historical Institutionalism in Comparative Politics," in *Structuring Politics: Historical Institutionalism in Comparative Analysis,* ed. Sven Steinmo, Kathleen Thelen and Frank Longstreth. (Cambridge University Press, 1992): 2.
[81] T. Lind and G.A. MacKay, *Norwegian Oil Policies* (Montreal: McGill- Queen's University Press, 1979), 207.

protection of nature and the environment."[82] This clause ensured that petroleum policies from that point on had to, to some degree, take into consideration the industry's impact on the environment.

Table 2. The 10 Oil Commandments

The 10 Oil Commandments

1. That national supervision and control of all activity on the Norwegian Continental Shelf must be ensured.
2. That the petroleum discoveries must be exploited in a manner designed to ensure maximum independence for Norway in terms of reliance on others for supply of crude oil.
3. That new business activity must be developed, based on petroleum.
4. That the development of an oil industry must take place with necessary consideration for existing commercial activity, as well as protection of nature and the environment.
5. That flaring of exploitable gas on the Norwegian Continental Shelf must only be allowed in limited test periods.
6. That petroleum from the Norwegian Continental Shelf must, as a main rule, be landed in Norway, with the exception of special cases in which socio-political considerations warrant a different solution.
7. That the State involves itself at all reasonable levels, contributes to coordinating Norwegian interests within the Norwegian petroleum industry, and to developing an integrated Norwegian oil community with both national and international objectives.
8. That a state-owned oil company be established to safeguard the State's commercial interests, and to pursue expedient cooperation with domestic and foreign oil stakeholders.
9. That an activity plan must be adopted for the area north of the 62nd parallel which satisfies the unique socio-political factors associated with that part of the country.
10. That Norwegian petroleum discoveries could present new tasks to Norway's foreign policy.

The "10 Oil Commandments" (Table 2) require oil companies to produce EIAs in the North Sea. At this time, the legal requirements for EIAs were fragmented, because there was no system developed for their application on major petroleum developments. Although there was fragmentation over the legal requirements of EIA, it was understood that EIAs were being traditionally implemented, but not necessarily under the term "EIA." As Lind states, "Although the legal obligations are somewhat fragmentary, there is a long standing tradition in the Norwegian civil service of

[82] Ministry of Petroleum and Energy, "Meld St. 28(2010-2011) Report to the Storting: An Industry for the Future- Norway's Petroleum Activities," accessed October 11, 2012, http://www.regjeringen.no/pages/35278666/PDFS/STM201020110028000EN_PDFS.pdf.

assessing the possible consequences of proposals presented to the Storting."[83] In petroleum operations, it was the responsibility of the operators to ensure their policies complied with the EIA regulations. The environmental and socioeconomic concerns were addressed by ministerial committees operating under the Ministry of Environment. Additionally, consultations would occur with the operators, the various ministerial committees, and a committee comprised of officials representing the regions that would be affected by development. After these steps were taken, as Lind explains, the "commission summarized its findings and offered its recommendations in an appendix to a Parliamentary Proposition."[84] Thus, it is evident that SEA strategies were being applied early on in offshore oil development; however, it was time consuming and costly, due to its fragmented nature. Thus, a more comprehensive approach was needed. This necessity was highlighted in a report released in 1974.

A White Paper to the Storting in 1974 entitled "Petroleum Industry in Norwegian Society," provided extensive criticism of Norway's approach to offshore oil and gas development. The primary concern identified in the report was the lack of input from the scientific community in the policy-making process. Noreng discusses this particular issue, noting that the report shed light on the fact that little scientific information was available about environmental conditions in the Arctic; thus, environmental assessments could not be properly conducted.[85] This concern was also being reiterated by the fishing and coastal communities, as indicated by Lind: "The Association of Fishermen and others dependent on the fishing industries were more skeptical. Critics doubted the level of safety. They feared that oil spills in the North could endanger fish stocks because clean-up facilities were inadequate."[86] Additionally, local residents in the news often voice their fear of the unknown impact of an oil spill. One recent news article for example, quotes Borge Iversen, a local Lofoten Island fishermen: "One oil spill would be the end of us."[87] The policy paper, released in 1974,

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[83] Terje Lind, "The Environmental Impact Assessment Process for Offshore Oil and Gas Exploration and Development," *Environmental Impact Assessment Review* 4, no. 2-4 (December 1983): 459.
[84] Ibid., 462.
[85] Oystein Noreng, *The Oil Industry and Government Strategy in the North Sea* (London: Croom Helm, 1980), 56.
[86] Ibid.
[87] Steven Lee Myers, *et al.,* "Old Ways of Life are Fading as the Arctic Thaws, " *The New York Times*, October 20, 2005, accessed September 12, 2011, http://www.nytimes.com/2005/10/20/science/earth/20arctic.ready.html?pagewanted=all.

encompassed these concerns by suggesting that the oil and gas sector should be more cautious in the Arctic, as it is necessary to have a detailed knowledge of both the particular marine environment and the composition of oil before an analysis of environmental consequences can be made.[88] This attention to detail also reflected the incremental mentality adopted by the Norwegian government toward petroleum development.

This report, in addition, to six other reports commissioned by the Norwegian government, led to the creation of the Petroleum Act in 1985. The Petroleum Act is significant for the advancement of SEA strategies in Norway's petroleum industry. The Act provided a road map for the parties involved in EIA management, giving them a better understanding of the process and their role in it, versus the *ad hoc* system being implemented before. Additionally, the Act outlined procedures that had already been occurring within the offshore oil and gas policy process, but which were not legally binding. For example, the Act requires consultations with the public to occur prior to the exploration phase. However, as Lind explains, this step was already occurring before it became legally binding:

> Although there is today no legally binding obligation in the regulations concerning the petroleum industry activities to collect views from the public before exploration begins, the MPE has normally informed affected parties and asked their view points. In the new Petroleum Act, this practice is codified in Article Seven, second paragraph. [89]

This example signifies further that historically, the government was already utilizing many of the EIA and SEA procedures and strategies since the start of development its oil industry. Licenses were used to control the pace of development, as well as to establish any further environmental requirements beyond that required by legislation. With further codification by the Petroleum Act, Norway can monitor a range of economic activity, employment, government revenue, company profits, institute protectionist measures (the government routinely granted licenses to Norwegian firms),

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[88] Oystein Noreng, *The Oil Industry and Government Strategy in the North Sea* (London: Croom Helm, 1980), 56.

[89] Terje Lind, "The Environmental Impact Assessment Process for Offshore Oil and Gas Exploration and Development in Norway, "*Environmental Impact Assessment Review* 4, no. 2-4 (December 1983): 468.

and put mandatory environmental requirements on licenses.[90] This feature gives flexibility in policy-making, since the state holds the ability to loosen or tighten environmental regulations on the offshore oil and gas industry, depending on international and internal pressures.

3.6 Emergence of REIA & IMP

With the release of the White Paper in 1974 and the Petroleum Act in 1985, there was a gradual progression to expand EIAs to encompass a regional approach to the environmental management of offshore activities.[91] New revisions came into force in 1997 under the Petroleum Act, requiring regional environmental assessments to be undertaken for the North Sea and the Norwegian Sea, marking another incremental step in the evolution of SEA in Norway's petroleum administration. Most recently, however, there is a new drive by the Norwegian government for the introduction of integrated management plans for the Norwegian and the Barents Sea. This form of environmental assessment moves beyond sector specific assessments to capture all sectors operating in the offshore environment. Regional and integrative approaches emerged as a result of the administrative apparatuses already established by years of environmental management in Norway's offshore oil and gas activities. These strategic approaches to environmental assessments will be discussed in the following section.

[90] Jon Rytter Hasle *et al.*, "Decision on Oil and Gas Exploration in an Arctic Area: Case Study from the Norwegian Barents Sea," *Safety Science* 47 (2009): 833.
[91] Terje Lind, "The Environmental Impact Assessment Process for Offshore Oil and Gas Exploration and Development in Norway, "*Environmental Impact Assessment Review* 4, no. 2-4 (December 1983): 468; Sigurd Juel Kinn. "Regional Environmental Impact Assessment: Experiences from Norwegian Petroleum Activity," (proceedings from the 3rd Nordic EIA/SEA Conference November 22-23, 1999): 97.

3.7 Regional Environmental Impact Assessments and Integrated Management Plans

Earlier policies, such as the 10 Oil Commandments, the 1985 Petroleum Act, and the cooperative relationship developed between institutions, established a development path that allowed environmental assessments to move beyond the project and site-specific tier. The rationale of moving to a regional environmental assessment was to establish an environmental management system that was timelier, more efficient, and included a more comprehensive assessment.[92] The Norwegian government legislated the adoption of regional environmental impact assessments to be included in offshore energy planning.

As Norway's oil and gas sector has started to move further north, concerns continue to mount regarding the uncertainty surrounding the long-term effects that oil and gas activity pose on the Arctic's ecosystem.[93] The Petroleum Act of 1985 only required environmental assessments to be conducted only on a project-by-project basis, and critics argued that a specific project has the potential to impact on an entire region.[94] Gray *et al.* note, "oil companies expected the effects of their activities to be found to a 1km radius…subsequent studies showed that a more realistic figure of the area affected was a 3 km radius giving roughly 10 times the area predicted by the companies."[95] The scientific community argued that oil leaking from a particular site could travel well beyond the boundaries of the offshore platform and therefore affect the environment of an entire region. Thus, in 1995, the government created a new monitoring system that made it possible to assess the environmental effects of offshore activities on a regional basis.

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[92] John S. Gray *et al.*, "Managing the Environmental Effects of the Norwegian Oil and Gas Industry: From Conflict to Consensus," *Marine Pollution Bulletin* 38, no.7 (1999): 525.
[93] Maaike Knol, "The Uncertainties of Precaution: Zero Discharges in the Barents Sea," *Marine Policy* 35 (2011): 399; Gunnar Futsaeter, "Environmental Policy & Regulation for Oil Exploration & Shipping Activities in the Barents Sea," *Marine Pollution Bulletin* 29, no. 6-12 (1994): 350; Arctic Monitoring and Assessment Programme (AMAP), "Arctic Oil and Gas 2007," accessed November 27, 2012, http://library.arcticportal.org/1552/1/oil_and_gas_assessment.pdf
[94] Sigurd Juel Kinn. "Regional Environmental Impact Assessment: Experiences from Norwegian Petroleum Activity," (proceedings from the 3rd Nordic EIA/SEA Conference November 22-23, 1999): 97.
[95] John S. Gray *et al.*, "Managing the Environmental Effects of the Norwegian Oil and Gas Industry: From Conflict to Consensus," *Marine Pollution Bulletin* 38, no. 7 (1999): 525.

Kinn discusses the importance of a regional EIA (REIA), and argues, "REIAs give both the operators and the authorities a better understanding of the environmental impacts from petroleum activity…it has a potential for substantially improving both the quality and the efficiency of EIA work and has so far been successfully implemented in the Norwegian petroleum industry."[96] The reason for including regional impact assessments, as explained by Kinn, is to have a better basis for evaluating the total environmental and socio- economic effects of offshore activities in the petroleum sector.

A regional impact assessment is similar in many respects to SEA. It entails a description of the existing, planned, and foreseen petroleum activity in the area including drilling, production, and shipping, as well as yearly total emissions of discharge into the sea; impacts on marine ecosystems, coast, and fisheries; socio-economic impacts; and regional environmental monitoring programs.[97] The Norwegian Continental Shelf was divided into 11 regions, and each regional assessment is conducted by a consulting company with the support of the oil companies through the national oil company organization (OLF). Once a regional environmental impact assessment is submitted to the Ministry of Petroleum and Energy and approved by the Storting, it becomes a reference document for individual project assessments; it can also be accessed by the public. The second phase is the responsibility of the oil operators to conduct project-specific environmental impact assessments, which is field-specific regarding technology and reducing environmental impacts. The implementation of a regional environmental impact assessment is conducted under an umbrella of government agencies and oil companies, making environmental monitoring less costly and more efficient. As Gray *et al.* observes "the new regional monitoring has thus led to excellent collaboration between authorities, oil companies, scientists, and consultants…which has led to the protection of the marine environment and a mutually beneficial data collecting system."[98] However, the regional monitoring system up to this point is only sector specific. The inclusion of regional environmental assessments reflects the importance that the Norwegian government placed on ensuring the

[96] Sigurd Juel Kinn, "Regional Environmental Impact Assessment: Experiences from Norwegian Petroleum Activity," (proceedings from the 3rd Nordic EIA/SEA Conference November 22-23, 1999): 97.
[97] Ibid.
[98] John S. Gray *et al.,* "Managing the Environmental Effects of the Norwegian Oil and Gas Industry: From Conflict to Consensus," *Marine Pollution Bulletin* 38, no. 7 (1999): 529.

sustainability and protection of the environment. The accumulative changes in legislation build upon the petroleum industry's traditional "go-slow" approach towards development that has characterized the oil and gas regime. These incremental and piecemeal adaptations characterize the evolution of SEA strategies and principles within the Norwegian oil and gas administration.

In 2001-2002, the Ministry of the Environment's White Paper entitled *Protecting the Riches of the Sea* suggested the implementation of a new form of environmental management. As the Ministry writes, "This Government intends to develop tools and processes which help lay the foundation for an overall policy on the marine environment…this Government is preparing a future system of management that will be ecosystem-based and that will extend across all sectors."[99] The management system is referred to as an integrated management approach to offshore planning, or Integrated Management Plan (IMP). It is a multi-sector impact assessment that is designed to capture all sectors in the offshore environment, including oil and gas, fisheries, and shipping. The IMP differentiates itself from the REIA, by not being directed toward one specific sector, but by focusing holistically on the impact of all offshore activities. However, an integrated management plan is not a legal requirement for the approval of a new development. In 2006, the Norwegian government initiated an IMP for the Barents Sea and the areas off of the Lofoten Islands; it has also been initiated in the Norwegian and North Sea.

The IMP facilitates the coexistence of the multiple sectors involved. Prior to the introduction of the IMP, Norway's marine areas and their resources have been assessed and managed separately, sector by sector. This practice created overlap in information, and inefficiency in resource management.[100] The IMP allows environmental management strategies for environmental monitoring, and scientific information among sectors to be coordinated and shared. Fidler and Noble, in their research, note that the primary benefit of an IMP is its ability to apply similar assessment methods across

[99] Ministry of the Environment, "Report no.12 to the Storting (2001-2002): Protecting the Riches of the Sea," accessed November 5, 2012, http://www.regjeringen.no/pages/1944164/STM200120020012000EN_PDFS.pdf.
[100] Geir Ottersen *et al.,* "The Norwegian Plan for Integrated Ecosystem-Based Management of the Marine Environment in the Norwegian Sea," *Marine Policy* 35 (2011): 390.

sectors to identify impacts to the offshore environment.[101] The aim of an IMP is to move away from the sector-by-sector assessment by establishing a holistic management plan in which information is shared, creating a more efficient monitoring system.

As summarized in Table 3, SEA incrementally emerged in Norway's offshore petroleum by refining and broadening earlier policies. This emergence is reflected in the form of regional, sector specific, and multi- sector EAs. As illustrated above, however, the implementation of such practices is the result of cooperation and coordination among the institutions responsible for SEAs implementation.

Table 3. Development of Norway's Environmental Management of Offshore Oil and Gas

Development of Norway's Environmental Program	
• **1970-1985**	**10 Oil Commandments accepted (1972);** **Annual reports submitted by companies to the Norwegian Pollution Control Authority (SFT)**
• **1985**	**Petroleum Act – makes project- specific EA's mandatory. Additionally, expert group established to review reports**
• **1990**	**Norwegian guidelines made mandatory for Norwegian offshore monitoring**
• **1993**	**Regulations which prohibit discharge of oil-contaminated drill cuttings on the continental shelf enter into force**
• **1997**	**Revised Norwegian Petroleum Act – require Regional Environmental Impact Assessments**
• **2006**	**Completion of the Integrated Management Plan of the Barents Sea**

Source: from John S. Gray, et al., "Managing the Environmental Effects of the Norwegian Oil and Gas Industry: From Conflict to Consensus," *Marine Pollution Bulletin* 38:7 (1999), 527

[101] C. Fidler and B. Noble, "Advancing Strategic Environmental Assessment in the Offshore Oil and Gas Sector: Lessons from Norway, Canada and the United Kingdom," *Environmental Impact Assessment Review* 34 (2012): 19.

3.8 Summary

This chapter examined the developments of SEA within this Nordic model, and demonstrated how SEA incrementally influenced into Norway's offshore petroleum production by refining and broadening earlier policies. This historical context, under which Norway's petroleum industry matured and in which SEA evolved, is fundamental to understanding the influence SEA has in Norway's current oil and gas framework. As the Minister of Petroleum and Energy stated in a speech earlier this year, "in summary, it has taken more than three decades to establish Arctic Norway as the fully-fledged petroleum province it is today."[102] Based on this context, the next chapter will analyze examples of offshore oil and gas sites and regions to illustrate how Norway's historical context and institutional dynamics have integrated SEA.

[102] Ola Borten Moe, "Sustainable Petroleum Activities in the Arctic," (speech, Trondheim, Norway, June 26 2012), Arctic Energy Roundtable – Sustainable Petroleum Activities in the Arctic, accessed November 20, 2012, http://www.regjeringen.no/en/dep/oed/whats-new/speeches-and-articles/the_minister/speeches-and-articles-by-the-minister-of-2/sustainable-petroleum-activities-in-the-.html?id=691789.

CHAPTER FOUR

SEA in Today's Institutional Context

4.1 Introduction

The offshore oil and gas industry emerged in Norway at a time when the country had the bureaucratic capacity to manage large and complex operations. Decision-making within this bureaucracy is described as being a part of the Nordic governance model, in which institutions are successful at resolving political conflict.[103] As such, the institutions managing Norway's offshore oil and gas activity are embedded within this Nordic context. As Enoksen, the former Minister of the Petroleum and Energy of Norway states, "The interaction between the different actors in the sector has been a prerequisite for developing the Norwegian competence and oil and gas success story."[104]

This chapter will, first, illustrate how Norway's historical and institutional context have, over time, integrated environmental management strategies such as SEA, REIA, and IMPs into offshore petroleum operations. Such integration is exemplified in several cases representing different periods of Norway's offshore development, such as the Statfjord field, the opening of the Arctic region, and the Goliat field. Examining how SEA is applied within the oil and gas sector is important to understanding how institutions and their interactions influence the policy development of SEA in Norway's offshore petroleum industry. The second part of the chapter will focus on examining the institutions involved in the management of Norway's offshore oil and gas sector, particularly on these institutions responsible for, and playing crucial roles in environmental management of Arctic offshore petroleum activity.

[103] David Arter, *Scandinavian Politics Today,* (Second Edition: Manchester University Press, 2008), 152.
[104] Odd Roger Enoksen, "The Norwegian Model," (Speech, Norway, May 30, 2007), seminar on the Ministry and the Interaction Between the Ministry and the Industry, accessed November 20, 2012, http://www.regjeringen.no/en/dep/oed/whats-new/speeches-and-articles/the_minister/speeches-and-articles/2007/the-norwegian-model-.html?id=468703.

4.2 Offshore Operations

Norwegian history shows that the petroleum industry is embedded within a larger social, economic and political context, in which changes in policy occur in an incremental manner. The incremental nature is a result of Norway's consensus model of governance, in which agreement to move forward on issues with overlapping jurisdictions, such as the environmental management of offshore oil and gas activities, requires consensus from all parties involved. These next few examples illustrate that SEA has incrementally emerged within the petroleum industry from earlier policy decisions that allowed policymakers to adjust and adapt earlier environmental management strategies. Consequently, REIAs and IMPs are the result of gradual adjustments to earlier environmental assessment strategies within the petroleum administration. The process is illustrated by Lind's examination of single sector EIA integration in the 1970's Statfjord field, which set the foundation for a gradual expansion to a multi-sector approach being applied in today's offshore operations, particularly in the Barents region.[105]

The Statfjord field is located in the North Sea and was operated by the Statoil in the early 1970's. At the start of the operation, an issue arose over how excess gas produced during the extraction phase should be transported to onshore facilities. The parliament ordered studies to be conducted in an effort to decide the most appropriate method for transporting this excess gas. The Storting created a Commission for Negotiations on New Industrial Enterprises, which conducted environmental impact assessments, to better understand the potential effects of the two suggested proposals. The Commission also had an inter-ministerial board comprised of representatives from the Ministry of Environment who looked further into environmental and socio-economic issues. At the same time, consultations were occurring between the Commission and regional authorities, local organizations, and research institutes. Thus, from the start of Norway's offshore petroleum industry, a high degree of cooperation

[105] Terje Lind, "The Environmental Impact Assessment Process for Offshore Oil and Gas Exploration and Development in Norway, "*Environmental Impact Assessment Review* 4, no. 2-4 (December 1983): 462.

and coordination was occurring between multiple levels government and across multiple institutions involved in petroleum operations.

Up to this point, there was no blueprint that the government could follow for conducting a large scale EIA. As Lind explains, "there was not a good legal basis for determining the content of the impact assessment process, or for defining how the interested parties or general public should be informed and their voices heard, nor was there much experience to build on."[106] However, because of Norway's history as a well-established democratic nation, its bureaucracies had inherited the capacity to coordinate and communicate across ministerial lines, as well as to lower levels of authority. Thus, during the EIA process in the Statfjord field, the industry created interministerial boards and commissions as ways to facilitate coordination and collaboration among all parties involved in the environmental management process. The Statjford field was also one of the first areas subjected to environmental monitoring. Thus, the oil company had to annually produce an environmental monitoring report to the Norwegian Pollution Control Authority, detailing any changes to the physical environment in the area surrounding the field.[107] This example illustrates that early on in Norway's petroleum history, its institutions laid the foundation for ways to incorporate environmental assessment processes into offshore oil and gas planning.

During the era of the Statfjord field, offshore oil and gas operations were confined to regions of the North Sea. However, shortly thereafter, the region north of the 62nd parallel (i.e. the Arctic region) began to be considered for its energy resource potential. At this point, not much information was known about the potential impact that offshore petroleum activity could have on the physical and socio-economic environment in the Arctic. In particular, concerns arose regarding the impact that development could have on the fishing industry, coastal communities, and the overall physical environment. In the course of this decision-making process about whether or not to open up the Northern regions for offshore oil and gas development, large-scale environmental assessments strategies started to take shape. Institutional cooperation for EIAs was

[106] Terje Lind, "The Environmental Impact Assessment Process for Offshore Oil and Gas Exploration and Development in Norway," *Environmental Impact Assessment Review* 4, no. 2-4 (December 1983): 463.
[107] John S. Gray, *et al.,* "Managing the Environmental Effects of the Norwegian Oil and Gas Industry: From Conflict to Consensus," *Marine Pollution Bulletin* 38, no. 7 (1999), 526.

established. Thus, the oil and gas decision-making framework built on these institutional links, expanding the environmental management process to enable the conduct of EAs at a regional level within the offshore oil and gas sector.

At the same time, the decision making process over whether to open the Arctic for petroleum exploration required the Ministry of Petroleum and Energy to consult all relevant ministries that could potentially be impacted by offshore development in the North. From these consultations, parliamentary reports were submitted on a variety of issues such as the impact of oil spills on the environment, petroleum activities' impact on the environment, regional and social consequences of creating petroleum industries, and the socio-economic impacts of petroleum activities in the North.[108] In addition to ministerial cooperation, consultations were occurring between the Government, regional authorities, and the Association of Fishermen in regard to areas that should be opened for exploration. As Earney notes, "After several years of debate and the completion of some 84,000 kilometers of government-contracted seismic profile lines, in 1979 the Storting authorized the licensing of exploratory drilling north of 62 degrees N."[109] It was also during this period that a Royal Commission outlined a system of planning that incorporated EIAs for petroleum field development, as Norway began to create environmental management guidelines for regional and project-level impact assessments which both operators and the government could follow.

Such examples illustrate how institutional dynamics have allowed for SEA strategies to be integrated into Norway's offshore petroleum process, albeit never under the guise of "formal" (i.e., legislated or directive-led) SEA. In both scenarios, strategic thinking about potential consequences, alternative solutions, and consultations with all parties who could be impacted by development was indeed occurring despite the inexistence of formal legislative requirements.

As the Arctic climate continues to warm at a rapid pace, warming temperatures have led to a decrease in sea ice, allowing access to previously inaccessible areas. This effect in turn, has led to growing interest in the potential of untapped offshore petroleum

[108] Terje Lind, "The Environmental Impact Assessment Process for Offshore Oil and Gas Exploration and Development in Norway," *Environmental Impact Assessment Review* 4, no. 2-4 (December 1983): 465.
[109] Fillmore C.F. Earney, "The United Kingdom and Norway: Offshore Development Policies and State Oil Companies," *Ocean & Coastal Management* 18 (1992): 135.

resources.[110] In 2002, the Bondevik government (Prime Minister of Norway at the time) in Norway halted all offshore operations in the Barents Sea, stating that the region would not be open for offshore petroleum activities until the government conducted a comprehensive impact study of all offshore activities. Knol writes, "The declaration committed the government to a proactive environmental and resources policy based on the principle of sustainable development."[111] This step resulted in the creation of an integrated management plan, in which the impact of all offshore activities (fishing, oil and gas, shipping) on the environment was considered. In 2006, the government opened up the Barents region for offshore operation, upon completion of the IMP. Shortly after, the Goliat field emerged.

The Goliat field is characterized as being the world's northernmost offshore operation. The site is situated at 71° North latitude, in the northwest region of the Barents Sea.[112] Historically, this territory had been excluded by the Storting, as there was uncertainty surrounding the impact offshore development could bring upon the Arctic environment. All permits for the Barents region were disallowed until further information was available about the long and short-term impact that exploratory and drilling activities would have on the environment. Several site-specific assessments were conducted between 2002- 2005, led by the relevant ministries, with oversight by the Ministry of the Environment. However, in June 2009, the Norwegian Parliament approved the plan for development and operation (PDO) presented by the oil companies that were going to be involved in the development of the Goliat field. The approval of the PDO was the result of years of consultation and collaboration among all interested parties.

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[110] Arctic Council, "2012 Arctic Report Cards describe dramatic changes in the Arctic," accessed January 5, 2012, http://www.arctic-council.org/index.php/en/environment-a-climate/climate-change/654-2012-arctic-report-cards. Norwegian Ministry of Foreign Affairs, "The High North: Vision and Strategies," accessed January 5, 2012, http://www.regjeringen.no/upload/UD/Vedlegg/Nordområdene/UD_nordomrodene_innmat_EN_web.pdf, pg. 17.

[111] Maaike Knol, "Scientific Advice in Integrated Ocean Management: The Process Towards the Barents Sea Plan," *Marine Policy* 34 (2010): 253.

[112] Erik Bjornbom*, et al.,* "EIA for the Goliat Offshore Oil Field Development. World's Northernmost Offshore Oil Development?" (Paper presented at the SPE International Conference on Health, Safety and Environment in Oil and Gas Exploration and Production, Rio de Janeiro, Brazil, 12-14 April 2010): 1.

Eni Norge (i.e., the nominated oil company in charge) and the government coordinated to communicate with local and regional actors to ensure that all information and input was provided in selecting the proper strategies for development.[113] Collaboration occurred between the various actors on plans that addressed pollution/oil spill contingency, coexistence with fisheries, and the appropriate level of compensation to give to the local community.[114] Public hearings, meetings, online document releases, newspaper articles, and blogs, are all the modes of interactions used by the various participants involved in the plan for the approval of the Goliat field.

Meetings and hearings ranged from small groups, including the municipal leaders, to large public hearings at the local town halls.[115] Direct input into the planning process from the municipal level is an important feature of stakeholder interaction in Norway's petroleum industry. For example, the mayors of the six municipalities of Finnmark consulted directly with Eni Norge.[116] In Finnmark, more than 300 stakeholder meetings took place between 2006 and July 2009.[117] Consultations also occurred separately with local and regional fishermen's associations. The last hurdle for the developers was obtaining approval of the final plans from the Ministry of the Environment, as well as the Ministry of Petroleum and Energy.

[113] Eni Norge, "The Development Concept," accessed October 15, 2011. http://www.eninorge.no/en/Field-development/Goliat/Development-solution/.
[114] Ibid.
[115] Ibid.
[116] Ibid., 9.
[117] Ibid.

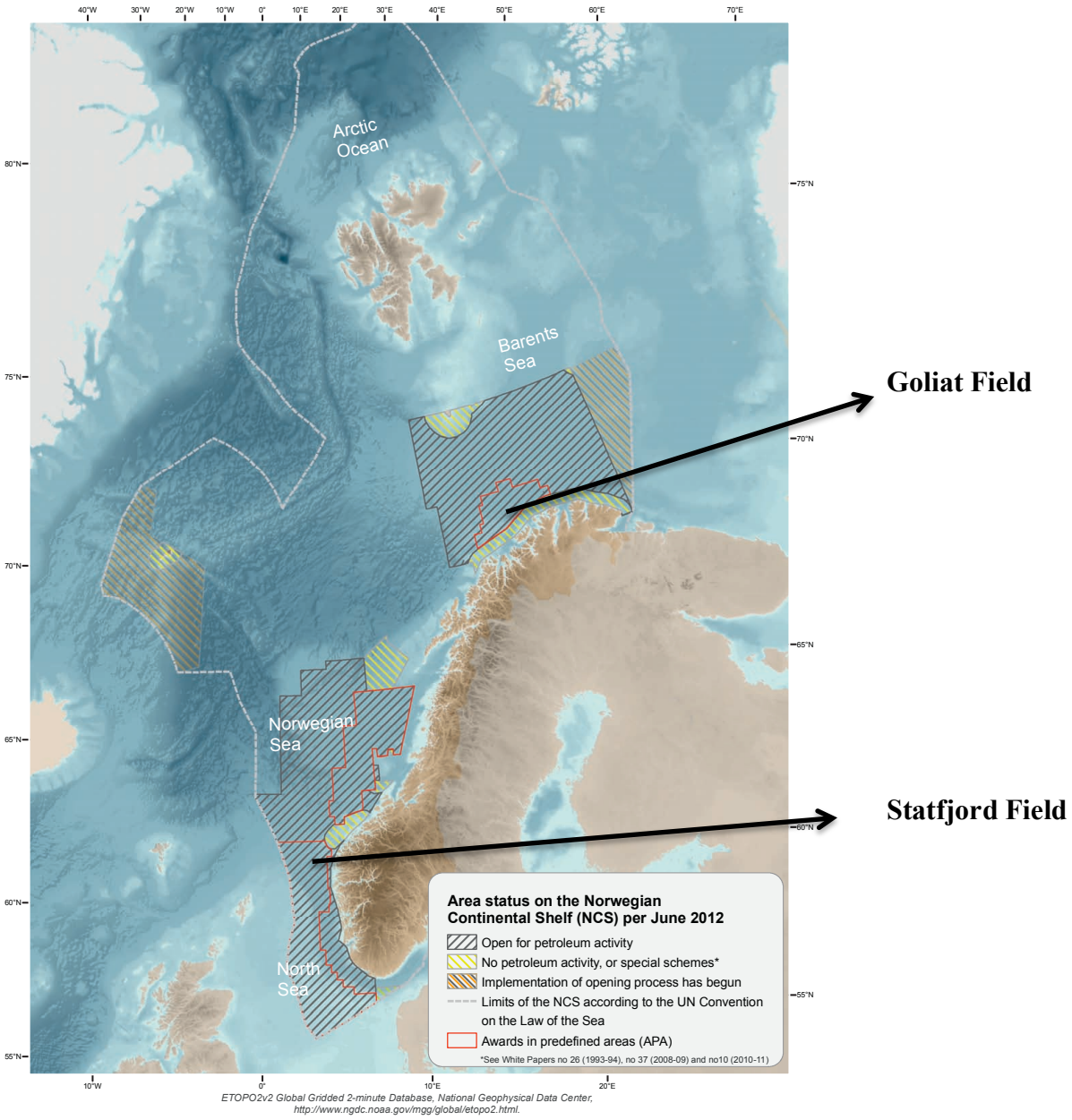

Fig. 2. Area of the Norwegian Continental Shelf (source – the Norwegian Petroleum Directorate, *with modifications)

Eni Norge conducted meetings with the Sami Parliament and the reindeer owners in an effort to get input on mitigating any potential harmful impacts.[118] The proposed impact assessment was translated into the Sami language to ensure that no one would be underrepresented or excluded, so the document would be accessible to those who do not use Norwegian as their first language. The oil company remarked that it would have ongoing collaboration and consultation with the Sami community. Additionally, the PDO must be approved by the Sami parliament before it is presented to the Storting for the final approval. Consultations occurred over the span of three years. This period represented an effort to adapt and modify strategies in order to reflect the perspective of the northern coastal communities. As a local reindeer herder from Norway's northern region states, "the people who are making the decisions, they are living in the south and they are living in towns. They don't mark the change of weather. It is only people who live in nature and get resources from nature who mark it."[119] This applies equally not only to local residents' understanding but the executive/leadership understanding of those decision makers.

Historically, this high level of citizen involvement in civil and political society has shaped Norway's politics. Grendstalds *et al*. write, "Norwegian and Scandinavian politics in a comparative perspective might be characterized by high levels of institutional centralization and state friendliness."[120] These examples show the level of coordination that has historically been established in the environmental management of offshore petroleum activities.

When licensing rounds for the Barents Sea reopened in 2009, the Norwegian government stated that operators must have drilled on the Norwegian Continental Shelf before being admitted to licensing in the Barents Sea. It is a requirement for new operators to prove their health, safety, and environment capability before entering the Barents Sea. Thus, offshore operators would have been subject to REIA's in the North

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[118] Erik Bjornbom, *et al.,* "EIA for the Goliat Offshore Oil Field Development. World's Northernmost Offshore Oil Development?" (paper presented at the SPE International Conference on Health, Safety and Environment in Oil and Gas Exploration and Production, Rio de Janeiro, Brazil, 12-14 April 2010): 9.
[119] Steven Lee Myers, *et al.,* "Old Ways of Life are Fading as the Arctic Thaws, " *The New York Times*, October 20, 2005, accessed September 12, 2011, http://www.nytimes.com/2005/10/20/science/earth/20arctic.ready.html?pagewanted=all.
[120] Gunnar Grendstad, *et al., Unique Environmentalism: A Comparative Perspective*, (New York: Springer Science + Business Media, 2006), 2.

Sea and Norwegian Sea. Additionally, the integrated management plan for the Barents Sea was finished and available to be utilized as a reference document.

At the planning level of the Goilat field, the plans for development had to be alternative-based, integrative and transparent. Erik Bjornbom *et al*. state, "The principal objective of the impact assessment (IA) is to create the best possible decision basis for evaluating how the planned petroleum operation will affect environmental conditions, natural resources, business interests and other consumer interests. In addition, it describes the possibilities for reducing or avoiding negative effects and reinforcing positive ones."[121] Evidently, strategic forms of decision-making were already clearly taking shape from the start of Goliat operations.

Furthermore, the Norwegian Government's High North Policy, released in November 2011, outlines Norway's future priorities for its northern petroleum resources by stating, "Norway has geographical advantages and extensive experience and knowledge of energy production at sea, and the Government intends to build on this." This idea by the Norwegian government to build upon Norway's extensive experience and knowledge in offshore oil and gas operations illustrates that offshore oil and gas policies incrementally build upon previous offshore experiences and procedures. As such, these examples demonstrate that Norway's historical context, in combination with the institutional apparatuses that oversee and manage the offshore sector, have allowed for the integration of a SEA system in petroleum operations. The environmental management processes of EIAs, REIAs and IMPs require a high degree of coordination and communication across bureaucratic lines, as environmental responsibility is shared between various actors. The next section will discuss the institutions in order to further understand their role in the integration of SEA into Norway's offshore oil and gas sector.

[121] Erik Bjornbom*, et al.,* "EIA for the Goliat Offshore Oil Field Development. World's Northernmost Offshore Oil Development?" (paper presented at the SPE International Conference on Health, Safety and Environment in Oil and Gas Exploration and Production, Rio de Janeiro, Brazil, 12-14 April 2010): 4.

4.3 Institutional Context

Institutions provide the context in which political actors define their strategies and pursue their interests, and history reveals why certain strategies and interests are emphasized over others. Furthermore, institutions emerged from, and are embedded in, temporal processes; as such, changes to the bureaucratic structure have been characterized as piecemeal, gradual and incremental. This quality characterizes the institutional development in Norway's petroleum administration. Norway's history as a cohesive, economically stable, and consensus style of democracy served to establish preconditions for the institutional cooperation and coordination that is essential for SEA to operate in offshore projects working within a large network of institutions.

The Norwegian oil governance model created in 1972, which separates the roles and responsibilities shared among commercial, policy, and regulatory bodies has remained unchanged. Policymaking remains the responsibility of the Ministry of Petroleum and Energy, with technical oversight and regulatory duties falling under the Norwegian Petroleum Directorate. The integration of environmental issues requires coordination between the oil and gas ministries, in addition to interactions with the Ministry of Fisheries and Coastal Affairs and the Ministry of the Environment. This linkage is achieved through inter-governmental coordination and cooperation. Close coordination with research institutes, universities, and international organizations in Arctic offshore activities has also strengthened the ability for SEA to be utilized within the offshore oil and gas sector. Understanding these institutions and their role is important to the historical institutionalist analysis of SEA in the offshore petroleum industry.

4.4 Ministry of Petroleum and Energy

The central institutional body in Norwegian oil and gas affairs is the Ministry of Petroleum and Energy, which carries the main responsibility over offshore petroleum operations in Norway. Historically, this ministry and its predecessor (Ministry of Industry) have taken a cautious, step-wise, and collaborative approach toward offshore petroleum development. Recently, Minister Moe of Petroleum and Energy, outlined this point at the presentation in Washington, D.C. on Norwegian Petroleum Policy in the Arctic; as he stated,

> Through a thorough process, involving all stakeholders, we established broad consensus about establishing the Barents Sea as a petroleum province. In the planning process, important elements like integrated management plans are introduced. Impact assessments are carried out. We need to base ourselves on the best available knowledge in evaluating future petroleum activities. It has never been our policy to open all areas on the Continental Shelf at once – we have applied a step-wise approach. [122]

This step-wise approach, established at the beginning of offshore petroleum development in Norway, has facilitated stakeholder dialogue and collaboration on environmental strategies such as EIA, REIA, and IMPs. As an overseer, the Ministry of Petroleum and Energy (MPE) has played an integral role in the integration of SEA into offshore petroleum operations. For example, the MPE is responsible for the opening up of regions for exploration (blocks); however, the MPE requires EA's at the project and regional level to be completed prior to the approval of plans that will open up a block; additionally, the plans have to be approved by the relevant ministries. As Hasle, Kjellen and Haugerud write, "blocks have been initially approved by MPE and then excluded from the licensing round because of potential for conflict with fisheries or being too close to an environmentally vulnerable coastline."[123]Thus, the Ministry of Environment, the Ministry of Fisheries and Coastal Affairs, and the Samediggi (i.e., Sami parliament)

[122] Ola Borten Moe, "Norwegian Petroleum Policy – the Arctic." (Speech, Washington, D.C., November 9, 2012,) Brookings Institute, http://www.regjeringen.no/upload/OED/pdf%20filer/Taler%20og%20artikler/2012-11-09_OlaBortenMoe_Presentation_Brookings.pdf.

[123] Jon Rytter Hasle, *et al.*, "Decision on Oil and Gas Exploration in an Arctic Area: Case Study from the Norwegian Barents Sea," *Safety Science* 47 (2009): 833.

must be consulted on potential offshore projects before the recommendation for formal approval is given.

Beyond the overarching ministerial responsibilities, specific technical and operational duties are appointed to the Norwegian Petroleum Directorate (NPD), a government agency created in 1972. The main purpose of creating the NPD during the establishment of Norway's petroleum administration was to form a regulatory body to monitor offshore oil and gas activities; it would operate at arm's length from the government. The NPD's official mandate is to "contribute to creating the greatest possible values for society from the oil and gas activities by means of prudent resource management based on safety, emergency preparedness and safeguarding of the external environment."[124] The directorate oversees the operational level of oil and gas affairs by ensuring that oil companies are adhering to legislated and mandated technical requirements.

The NPD uses permits as its primary method to ensure that requirements are being met. This practice allows the NPD and the MPE to monitor the pace of offshore exploration activity and platform construction. Along with providing permits and outlining regulations, the NPD provides virtual maps of areas where seismic surveys have been conducted. The information from these surveys allows the government and the oil companies to compare data, widening the net of environmental information available for decision makers. This agency is an important arm in the Norwegian petroleum administration guaranteeing operators are abiding by the environmental requirements for their specific project.

The Ministry of Petroleum and Energy continues to prioritize the inclusion of environmental management strategies in the planning of petroleum activities. This choice is evident in policy papers released by the Ministry, as well as in the actions the Ministry has taken to ensure the regulation of offshore activities through the NPD. For example, the White Paper entitled *Oil and Gas Activities* no. 38 (2001–2002) argues that petroleum activities must apply environmental management strategies to coexist with other offshore activities. The report states:

[124] Ibid.

> Norway must continue to rest on further industrial development based on living marine resources. It will accordingly remain important for the oil industry to accept responsibility for ensuring that fishing and environmental considerations form an integral part of its operations from the planning phase, and continuously to explore opportunities for adopting additional measures to meet the environmental challenges facing the industry.[125]

This perspective is reiterated in subsequent White Papers, *On the Petroleum Activity* no. 38 (2003-2004), and *An Industry for the Future – Norway's Petroleum Activities* no. 28 (2010-2011) released by the Ministry. The ministry continues to play a critical role in the integration of environmental assessments into the decision-making processes for offshore oil and gas activities. With the government's renewed emphasis on the High North in its foreign policy, in which the Storting aims to focus more strongly on energy and the environment in the region, the Ministry of Petroleum and Energy becomes a key institutional component for the government in achieving this aim. The MPE is an important actor in the integration of SEA; however, it is in combination and cooperation with the Ministry of the Environment that sound environmental policies are formulated.

[125] Ministry of Petroleum and Energy, "Report no.38 to the Storting (2001-2002): Oil and Gas Activities" accessed October 23, 2012, http://www.regjeringen.no/pages/1968343/Sreportno38.pdf.

4.5 Ministry of the Environment

Although petroleum operations are not the main focus of the Ministry of the Environment, this institution has provided significant scientific and policy guidance for the integration of EA strategies in offshore activities. Fischer notes that "both the UK and Norway became new oil producers in the environmental age…oil development and environmental protection, have been merged to mitigate the adverse impacts of offshore oil, particularly in the coastal zone."[126] This merging requires a degree of cooperation between the MPE and the Ministry of the Environment. The Ministry has been actively involved in pushing forward new forms of EA management in petroleum activities. This advocacy is evident in the propositions presented to the government over the years by the Ministry of the Environment. For example, suggestions outlined in White Paper no.12 (2001-2002), entitled P*rotecting the Riches of the Seas,* led to the subsequent adoption of an ecosystem-based management approach for the Barents, Norwegian, and North Sea in the form of integrated management plans. Further related White Papers have been released in 2008-2009 and in 2010-2011, outlining new suggestions and strategies promoting greater coexistence and management of offshore activities.

Subordinate agencies also play significant roles in the coordination of environmental management strategies. The agencies reflect Norway's historic consensus mode of politics, for they serve as a middle ground on which government, and non- government (scientists, environmentalists, etc.) reach agreements and create strategies on ways that offshore activities can coexist with the environment. In particular, for Arctic issues, the Ministry delegates responsibility to the Climate and Pollution Agency and to the Norwegian Polar Institute. These agencies collect ecological data to observe the state of the environment, focusing on regions that are exposed to offshore activities such as fishing, mining, shipping, and oil and gas. One example is the Climate and Pollution Agency exercises the regulatory authority to carry out inspections of oil and gas facilities, as granted under the Pollution Control Act.[127] The act outlines specific guidelines to which offshore facilities must adhere regarding

[126] David W. Fischer, "A Comparison of Approaches to Assessing the Impacts of North Sea oil in the United Kingdom and Norway," *Environmental Impact Assessment Review* 4, no. 3-4 (December 1983): 434.
[127] Climate and Pollution Agency, accessed February 24, 2011, http://www.klif.no/english/english/.

amount of CO_2 that is legally allowed in the air. The Goliat field in the Barents Sea is subject to quota obligations for greenhouse gases, in addition to a CO_2 tax, which the Agency monitors. These institutions provide valuable scientific information for the creation of environmental impact assessments.

The Pollution and Control Agency is a pivotal part of the environmental monitoring process and is significant in the coordination and collaboration of sharing environmental information. The agency assists in environmental monitoring of the Norwegian continental shelf, and coordinates innovative projects to increase research in offshore technology that will reduce the impact on the environment. For example, offshore facilities in the Barents Sea have heated decks, runways, and those close to shore have pipelines under water to transport resources to onshore facilities.[128] As it serves as a referral body to the Ministry of Environment on key environmental issues, this organization "highlights focus on the main environmental challenges in different sectors, gives advice, assessments, and suggestions for lines of action to the Ministry of the Environment."[129] It is also a key component in the environmental monitoring of offshore activities. The agency established an expert group in 1985, which reviewed all individual annual reports submitted to the institution by oil companies operating in Norwegian waters.[130] The expert group's findings resulted in a call for an increasingly regional approach; it discovered a high degree of overlap in environmental monitoring of individual fields, in addition to an insufficient amount of information about the regional implications of offshore petroleum activities for the biophysical environment.

Similarly, the Norwegian Polar Institute provides scientific information pertaining to the Arctic environment. The institute is, "the central state institution for mapping and scientific research in polar regions, in addition to serving as the professional and strategic advisor for central administration on environmental affairs in the Norwegian polar region."[131] The institution acts as a forum for international coordination in its effort to harmonize the monitoring of the physical (i.e., climate, flora,

[128] Gunnar Futsaeter, "Environmental Policy and Regulation for Oil Exploration and Shipping Activities in the Barents Sea," *Marine Pollution Bulletin* 29 (1994): 349.
[129] Ibid.
[130] John S. Gray, *et al.,* "Managing the Environmental Effects of the Norwegian Oil and Gas Industry: From Conflict to Consensus," *Marine Pollution Bulletin* 38:7 (1999), 526.
[131] Norwegian Polar Institute, accessed February 24, 2001. http://www.regjeringen.no/en/dep/md/about-the-ministry/Subordinate-agencies/the-norwegian-polar-institute.html?id=85703.

and fauna), as well as the social environment (i.e., outdoor recreation and preservation of cultural heritage).

Historic Norwegian traditions for reaching consensus over complex policy issues are encapsulated within these agencies. The information from monitoring and research provides the authorities with the proper tools to enable the right decisions for ensuring sustainable development in the Arctic. Through various reports and scientific data collected, the ministry and agencies virtually guarantee that the best environmental information is being considered in the decision-making framework for offshore oil and gas policy. However, the responsibility to implement recommendations from the environmental information belongs to the Ministry of Petroleum and Energy, in agreement with its subordinate organizations; thus, cooperation between ministries is vital.[132] These institutions and ministries are therefore essential to the implementation of SEA within Norway's policy and planning of offshore activities.

4.6 Ministry of Fisheries and Coastal Affairs

The last major ministerial player with respect to the integration of environmental assessment strategies in Norway's petroleum sector is the Ministry of Fisheries and Coastal Affairs. The ministry is supported by its subordinate agency, the Norwegian Coastal Administration, which is responsible for national oil spill contingency measures. Protecting the Norwegian fishing industry and the coastal environment are the two main concerns of this ministry with respect to the environment in Arctic offshore oil and gas operations.

Recently, Minister Lisbeth Berg-Hansen, stated in a speech discussing Norway's fisheries, "the Ocean and its resources are the backbone of Norway's economy."[133] Note that the minister is referring not only to fisheries, but also to "resources," suggesting the coexistence of fisheries and petroleum resources. She continues to say that cooperation

[132] Ministry of Petroleum and Energy, accessed February 22, 2011. http://www.regjeringen.no/en/dep/oed/the-ministey.html?id=755

[133] Lisbeth Berg-Hansen, "The Norwegian Model for securing Sustainable Fisheries," (speech, Sao Paulo, Brazil, November 21, 2012), http://www.regjeringen.no/en/dep/fkd/Whats-new/Speeches-and-articles/minister/taler-og-artikler-av-fiskeri--og-kystmin/2012/the-norwegian-model-for-securing-sustain.html?id=708362.

is vital to the long- term continuation of offshore activity in Norway. This recent speech reflects the understanding that cooperation and collaboration across sectors is a key component in the integration of environmental strategies.

At the time when petroleum resources were discovered, fish were the primary resource extracted from the sea. The fishing industry represented numerous jobs and generated a great deal of revenue for the country. The industry is a significant economic and cultural icon for Norway's Arctic region. In Noreng's *The Oil Industry and Government Strategy in the North Sea,* he attributes the political weight of Norwegian fishermen as a pivotal factor for the inclusion of environmental management strategies in offshore oil and gas policies. As Noreng writes, "the fisherman and the coastal population explain why Norway has given a high priority to the protection of the environment ever since oil production started."[134] Hence, from the beginning, Norway's priority was to ensure that offshore petroleum activity would not affect the fishing industry or the Arctic's ecosystem. The coexistence of petroleum activities and industrial fishing is achieved through cooperative strategies among the ministries, agencies, industry, and the local communities.

Cooperation of the Ministry of Coastal Affairs and Fisheries in offshore petroleum activities occurs in the form of facilitating emergency response measures in the event of an oil spill. The agency has agreements with the Ministry of Petroleum and Energy to assist in the event of an offshore oil spill; in addition, the agency has agreements with three of the largest oil- processing plants in the Norwegian Continental Shelf to assist in safe transportation and response measures in the event of a spill.[135]

Historically, the main form of communication for exchanging ideas and information between the fishing and petroleum industries has been through working groups. For example, creating environmental monitoring guidelines for companies operating in Norway's Arctic is the result of annual meetings held on offshore environmental monitoring. The meetings act as a forum for cooperation to occur among the multiple actors governing the environment concerns of offshore oil and gas.

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[134] Noreng, Oystein, *The Oil Industry and Government Strategy in the North Sea* (London: Croom Helm, 1980), 207.

[135] The Norwegian Coastal Administration, "Coastal Administration's Main Tasks," accessed November 29, 2012, http://www.kystverket.no/en/About-Kystverket/About-the-NCA/Coastal-Administrations-main-tasks/.

Operators and consultants are invited to present both the most recent monitoring results and future plans, providing an opportunity for lectures and discussions on current issues related to offshore environmental monitoring.[136] The ability of multi-sectors to come together and cooperate to produce a working guideline for offshore operators reveals the degree of interactions shared by different levels of governance within Norway. This form of cooperation, which is historically common in Norway, has permitted environmental assessment strategies to be integrated into the Arctic offshore oil and gas policy process.

A wide range of circumpolar and international organizations have been created in an effort to harmonize research, encourage Arctic cooperation, and enhance communication among different circumpolar regions. Much of the interaction occurs by way of annual conferences/meetings, working groups, online discussion forums, or university and research institutions. This scope of involvement allows for the best environmental information to be available when environmental assessments are being created. In particular, much attention has recently shifted to the treaty signed in September 2010 between Norway and Russia that resolved the disputed border of the Barents Sea and promoted greater cooperation between the fishing and petroleum industries.

The Ministry of Petroleum and Energy states that, "More than 30 years of petroleum operations have demonstrated that it is possible to pursue such activities [oil and gas] within acceptable environmental limits and in coexistence with other maritime-based industries."[137] Institutions encompass the Nordic form of consensual democracy, in which issues try to be resolved through means of institutional collaboration and cooperation. The management of Norway's offshore petroleum sector is highly centralized in that the government controls all aspects of Norway's oil and gas development, but incorporating environmental management tools - such as SEA - requires a level of cooperation and coordination between ministries and different levels

[136] Klima-Og Forurensnings-Direktoratet, "Guidelines for offshore environmental monitoring: The petroleum sector on the Norwegian Continental Shelf," accessed September 3, 2011. http://www.klif.no/publikasjoner/2849/ta2849.pdf.
[137] Ministry of Petroleum and Energy, "Report no.38 to the Storting (2001-2002): Oil and Gas Activities," accessed October 23, 2012, http://www.regjeringen.no/pages/1968343/Sreportno38.pdf.

of government. As revealed above, institutions play a pivotal role in the integration of SEA into Norway's offshore oil and gas policies.

4.7 Summary

Alestalo *et al.* write, "Nordic countries are small and unitary, which make decision- making easier than in big and/or federal states."[138] The small and homogenous population makes it easier for institutions to adapt legislation and to advance particular interests; in this case, it is the environmental management of the offshore oil and gas sector. This chapter considered specific offshore examples to illustrate how Norway's historical and institutional context have, over time, integrated forms of SEA such as integrated management plans, regional environmental impact assessments, and environmental impact assessments in the oil and gas sector. Consequently, the bureaucratic structure governing Norway's offshore petroleum sector has from the start focused on incorporating environmental management strategies into offshore activities.

Unraveling this historical and institutional narrative reveals how SEA has become an integral part within the petroleum industries' environmental management strategy. Historical institutionalism emphasizes the notion that temporal processes are embedded within institutions, either through formal rules, policy structures, or norms, and that the institutions are sustained by the broader social and economic context. Scholars such as Steinmo, Skocpol, Hall, and Skowronek argue that the differences in structural features of nation states and the developmental path pursued by them often arises from historical situations that have been experienced and learned from previously. The evolution of SEA within Norway's oil and gas regime reflects this quality, as Norway's historical social, political, and economic circumstances have shaped the direction of its petroleum policies.

[138] Matti Alestalo, *et al.*, "The Nordic Model: Conditions, Origins, Outcomes, Lessons," *Hertie School of Governance – Working Papers* No. 41, June 2009, accessed September 24, 2012. http://www.hertie-school.org/fileadmin/images/Downloads/working_papers/41.pdf.

CHAPTER FIVE

Lessons & Conclusion

The previous chapters have demonstrated that Norway has placed good planning and assessment at the core of its management of petroleum resources. But, do Norway's objectives and goals of its management of offshore petroleum meet the criteria of strategic environmental assessment? And, what are the lessons that can be learned from the Norwegian case? Below, this chapter concludes—based on the analyses of the three previous chapters—there is a compelling case that Norway does indeed apply SEA to the management of its off-shore resources. This chapter also outlines key lessons for Canada and other countries revealed through the analysis of the Norwegian efforts to implement SEA.

5.1 Strategic Nature of Norway's Oil and Gas Sector

The Norwegian's government approach to the management of its off-shore oil and gas industry reflects the key principles of SEA as outlined in Chapter 1, including the *strategic* nature of Norwegian goals and objectives. These principles are evident in the various national administrative orders and directives outlined in legislative acts, such as the Petroleum Act, and manifest in other parliamentary documents, including white papers (see Table 4). Norway's oil and gas sector is strategically focused, futures oriented, objective led, tiered, integrated, proactive and alternatives-based; this is reflected in its legislation guiding the governance of its offshore oil and gas development. Chapter 3 of the *Petroleum Act* 1985 and its revised 1997 version, is focused to ensure petroleum policies align with the government's broader objective for the High North (Arctic) of ensuring sustainable and environmentally responsible exploration of resources.[139] Under legislation, prior to the opening of new areas for exploration purposes and project development, a regional assessment of the area must occur. Within a region the impact of petroleum activities on trade, industry, the environment, economic, and

[139] Ministry of Petroleum and Energy, "Meld St. 28(2010-2011) Report to the Storting: An Industry for the Future-Norway's Petroleum Activities," accessed March 19, 2013, http://www.regjeringen.no/pages/35278666/PDFS/STM201020110028000EN_PDFS.pdf.

social effects must then be assessed with the best possible project design, location and mitigation measures selected. The purpose, as stated by the Ministry of Petroleum and Energy, is to resolve any issues prior to the opening of a new potential area for exploration. The Act also stipulates that the assessment proposal of unopened areas must be put before local authorities, agencies and organizations with interest in the matter, in addition to the public for approval or alternative suggestions. Compliance and monitoring to the objectives outlined within the Act is the responsibility of the Norwegian Petroleum Directorate.

Table 4. Strategic Environmental Assessment Principles in Norway's Oil and Gas Sector

PRINCIPLES	DESCRIPTION	NORWAY
STRATEGIC	Identifies strategic and long-term initiatives, evaluates alternatives; Process of defining goals, or visions in terms of the desirable principles to be established.	1985 Petroleum Act 1997 Petroleum Act (updated)
FUTURES- ORIENTED	Focuses on identifying possible futures; Attempts to build a desirable future.	1985 Petroleum Act 1997 Petroleum Act -White Paper no.12 (2001-2002), "Protecting the Riches of the Sea." -White Paper no. 8 (2005-2006), "Integrated Management of the Marine Environment of the Barents Sea and the Sea Areas off Lofoten" -White Paper no. 37 (2008-2009), "Integrated Management of the Marine Environment of the Norwegian Sea." -White Paper no.10 (2010-2011), "First update for the Integrated Management Plan for the Marine Environment of the Barents Sea-Lofoten Area."
OBJECTIVES LED	Examines particular goals and objectives to be accomplished; Set within a broader, cumulative context.	1985 Petroleum Act 1997 Petroleum Act White Paper's on Integrated Management Plans – Barents, Norwegian and North Sea.
TIERED	Set within the context of previous and subsequent decision outcomes and objectives; Influence on subsequent or downstream assessments, such as regional- based processes.	1985 Petroleum Act 1997 Petroleum Act White Paper's on Integrated Management Plans – Barents, Norwegian and North Sea.
INTEGRATED	Addresses interrelationships of biophysical, social and economic systems; Encompasses the activities of multiple sectors that may exist in a region.	1985 Petroleum Act 1997 Petroleum Act White Paper's on Integrated Management Plans - Barents, Norwegian and North Sea.
PROACTIVE	Examines alternatives to identify the best practicable environmental option; Ensures early and ongoing involvement of relevant stakeholders.	1985 Petroleum Act 1997 Petroleum Act White Paper's on Integrated Management Plans – Barents, Norwegian and North Sea.

ALTERNATIVE FOCUSED/ ADAPTIVE	Assess alternative policy, plan and programs; Adapts strategies as new knowledge is gained through implementation, monitoring and feedback.	1985 Petroleum Act 1997 Petroleum Act White Paper no.10 (2010-2011), "First update for the Integrated Management Plan for the Marine Environment of the Barents Sea-Lofoten Area."

White Papers are documents that provide guidance to the Norwegian petroleum administration. These papers encompass the future- oriented, integrative, proactive and alterative- based principles reflective of a strategic approach to environmental assessment. The Norwegian White Papers presented by the relevant Ministries, mainly the Ministry of the Environment and the Ministry of Petroleum and Energy, have submitted proposals to improve the governments ability to assess the long- term potential environmental impact of offshore development. Additionally, the White Papers advocate for plans to be cross-referenced with offshore sectors in the region to ensure the best possible prediction of future environmental conditions or trends and path forward is chosen. This has led to the goals and objectives outlined in the Petroleum Act to be embedded within a larger structure that seeks to assess the cumulative impact of all offshore activities on the economic, social and environmental sectors within the three offshore regions, North, Norwegian and Barents Sea. White Papers no.12 (2001-2002), no.8 (2005-2006), no.37 (2008-2009), no.10 (2010-2011) are future-oriented, integrative, proactive and contribute to providing policy alternatives towards offshore development. Although this assessment is not legislated, the Norwegian government has paused the opening up of new regions until the completion of the integrated management plans.

In the Ministry of Petroleum and Energy's most recent White Paper the government outlines its process for the potential of opening up a new area for exploration. The assessment process requires:

- Determining the program;
- Defining and planning field studies;
- Carrying out field studies;
- Analyzing and reporting updated knowledge basis;
- Assessment of basis for petroleum activity, establishment of scenarios;
- Impact assessment – relevant issues associated with petroleum activity;

- Public consultation regarding the impact assessment;
- Presenting a White Paper to the Storting.[140]

As the table above and the recent description of the assessment process illustrate, Norway's offshore oil and gas sector is strategic in nature and reflects, to a significant extent, broad SEA principles in its approach to environmental management in the offshore oil and gas sector. It has developed a systematic process of evaluating potential environmental effects of proposed or existing policies, plans and programs.

5.3 Lessons

The Arctic is becoming an increasingly important topic on the international political stage; however, domestically, Norway has been focusing on the North for decades; first as Minister Moe asserted, Norway has more than a 30-year history of petroleum activity in the High North. The petroleum policies being applied to Arctic offshore oil and gas today in Norway have clearly emerged as the result of decades of incremental policy changes and institutional dynamics.

Current decisions, such as the requirement for IMPs for the North Sea and Norwegian Sea, are path-dependent on earlier policy choices made by the institutions governing Norway's petroleum industry. It is important to understand the historical context, in combination with current institutional dynamics in which policy decisions are made. That is why historical institutionalism is the best approach to understanding how SEA is integrated within Norway's offshore oil and gas sector. As the former Director General Gunnar Gjerde of the Norwegian Ministry of Petroleum and Energy states, "It is vitally important for the industry to understand the philosophy, principles and elements of the petroleum management system, through what processes the decisions are made, and the broader political picture in which the petroleum activity is a part."[141] It is not the result of a major government reorganization caused by the

[140] Ministry of Petroleum and Energy, "Meld St. 28(2010-2011) Report to the Storting: An Industry for the Future-Norway's Petroleum Activities," accessed March 19, 2013, http://www.regjeringen.no/pages/35278666/PDFS/STM201020110028000EN_PDFS.pdf.

[141] Gunnar Gjerde, "The Norwegian Model and the Working Relationship between the Authorities and the Industry," (speech, Oslo, Norway, May 30, 2007), MPE Seminar on the Norwegian Model for Petroleum Activity, accessed November 22, 2012,

economy, or by pressure from environmental groups (although they do help push environmental issues onto the political agenda), or as the result of a major shift in power in domestic politics, but it is the combination of a historical chain of events, in addition to institutional cooperation and collaboration that is specific to the Norwegian context.

On a grander scale, historical institutionalism allows lessons to be drawn about the Norwegian context. Democratically, Nordic states differ from the Westminster model in that these nations seek, through multiple parties, to represent all interests and to reach consensus on political issues. This practice is a result of their distinct histories and political culture. In Arctic offshore oil and gas, this form of decision-making has helped Norway in implementing environmental strategies, in particular, the way in which institutions coordinate and cooperate in their effort to conduct SEA, in the form of EAs, REIAs, and IMPs. Thus, regions with similar political and historical demographics of being culturally harmonized, as well as economically and politically stable, could set up a similar system to the Norwegian model of SEA offshore oil and gas in the Arctic. As Alestalo, Hort, and Kuhnle stated earlier, Nordic countries are small and unitary, which makes decision-making easier than in big and/or federal states.[142]

Secondly, Norway had, prior to the discovery of offshore oil and gas, engaged in offshore activities of fishing and shipping. Additionally, at the same time, the country had institutional capacity and an established populace in its Arctic region. These factors contributed to the ability of the nation to set up its petroleum industry and to manage it in a way that allowed for the integration of environmental strategies into the policy and planning process. As Minister Moe of Petroleum and Energy emphasizes, "We must therefore facilitate the coexistence of different industries and interests within an environmentally sustainable framework."[143]

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http://www.regjeringen.no/Upload/OED/Vedlegg/Norwegian%20model/Norwegian_model_program_Gunnar_Gjerde.pdf.

[142] Matti Alestalo, *et al.*, "The Nordic Model: Conditions, Origins, Outcomes, Lessons," *Hertie School of Governance – Working Papers* No. 41, June 2009, accessed September 24, 2012. http://www.hertie-school.org/fileadmin/images/Downloads/working_papers/41.pdf.

[143] Ola Borten Moe, "Norwegian Petroleum Policy – the Arctic," (speech, Washington, D.C. November 9, 2012), Brookings Institute, accessed November 20, 2012, http://www.regjeringen.no/upload/OED/pdf%20filer/Taler%20og%20artikler/2012-11-09_OlaBortenMoe_Presentation_Brookings.pdf.

Thirdly, Norway's emphasis on incremental development in the Arctic is a significant element that contributed to the integration of SEA within the offshore oil and gas sector. As Knudsen and Rothstein state, "the modern state, as an institutional complex, may be compared to a coral reef. Much as coral reefs are shaped by deposits over a long period, so states are shaped by their institutions."[144] Clearly, SEA did not emerge in Norway as a simple result of the government adopting SEA legislation, but it has historically been incrementally applied through informal means. As illustrated in the thesis, practices of ensuring that all environmental information was available, and all parties interested in the welfare of the environment were consulted was routinely occurring before the government would approve plans of development in the Arctic region. This system has been in place since the start of offshore oil and gas operation on the Norwegian coast. This cautious approach, as argued by scholars of the Nordic model, is the result of Norway's historical context that is embedded within its institutions, one that encourages cooperation and collaboration. Therefore nations looking to adopt Norway's strategy must be willing to take a cautious approach, versus rapidly developing a region before all the proper information is available and the best plan for development is chosen.

5.2 Conclusion

Petroleum activities in the Arctic are demanding in ways economically, environmentally, and politically important. How Norway's offshore Arctic petroleum activities coexist with the Arctic's sensitive and fragile environment is a point of interest in recent literature. In particular, questions about the nature and scope of SEA in Norway's offshore oil and gas sector and how it emerged and is currently being practiced are areas of interest. The purpose of this thesis was to examine the integration of SEA in Norway's offshore oil and gas sector. A historical institutionalist approach was applied to understand better how SEA has been integrated, and to explain how it is a result of the Norwegian historical and institutional context. Clearly, Norway's

[144] Tim Knudsen and Bo Rothstein, "State Building in Scandinavia," *Comparative Politics,* 26, no. 2 (1994): 203.

political culture is infused within the evolution of the institutions that govern its current offshore petroleum resources.

The thesis started by providing a conceptual and analytical framework, the first part of which was to understand SEA, the second stage was to introduce historical institutionalism as the approach to analyze the integration of SEA in Norway's oil and gas sector. The historical institutionalist approach provided the context required to understand how Norway's Nordic history and institutional development is pivotal to the inclusion of SEA in the offshore oil and gas industry. Furthermore, the examples and institutional dynamics provide further evidence that the application of SEA in Norway is a direct product of the Norwegian context.

Historical institutionalism is the best approach for the Norwegian case, as it takes into account the role historical context and institutional dynamics factor into the integration of the SEA. The offshore oil and gas sector in Norway is a result of political processes that have unfolded over time; this history has allowed for proper environmental management strategies to be put in place. As Minister Moe of Petroleum and Energy of Norway recently stated at a 2012 global conference in Washington, "Our success as a petroleum nation has mainly come as a result of the way we have managed our petroleum resources." [145] Additionally, the historical institutionalist approach highlights the importance of understanding the impact Nordic state- building has on Norway's institutional development, state-building strongly influenced the inclusion of SEA into offshore petroleum decision-making and policy outcomes.

The second chapter provided an understanding of the Nordic governance model. The Scandinavian model of governance, as characterized by Castles, is one wherein a state is both strong and closely integrated with society. Furthermore, Hall, Grenstalds, and Castles argue that the inclusion of societal input into policy is characteristic of Nordic politics. This chapter illustrated how this context shaped the institutions and policies that integrated SEA into the oil and gas policy framework. Illustration occurred by examining the policy development in Norway's petroleum industry, as presented in

[145] Ola Borten Moe, "Sustainable petroleum activities in the Arctic," (speech, Trondheim, Norway, June 26 2012), Arctic Roundtable – Sustainable Petroleum Activities in the Arctic, accessed November 20, 2012. http://www.regjeringen.no/en/dep/oed/whats-new/speeches-and-articles/the_minister/speeches-and-articles-by-the-minister-of-2/sustainable-petroleum-activities-in-the-.html?id=691789.

White Papers released over the decades of petroleum activity within Norway. For example, the White Paper presented May 31, 1963 stated that the "King may issue regulations concerning the exploration for and exploitation of submarine natural resources."[146] Over time, these regulations incrementally integrated environmental assessment into Norway's offshore oil and gas policy. White Paper no. 37 (2008-2009), outlined the "Integrated Management of the Marine Environment of the Norwegian Sea." Prior to this, the Ministry of Environment released a White Paper no. 8 (2005-2006) entitled, "Integrated Management of the Marine Environment of the Barents Sea and the Sea Areas of the Lofoten Islands," and one released in 2000 was entitled, "Norwegian biodiversity policy and action plan – cross-sectorial responsibilities and coordination." Historically, legislation utilized the underlying principles of SEA and prompted a strategic approach toward petroleum administration.

The subsequent chapter took an evolutionary approach in order to exemplify through cases, the significance of how Norway's historical and institutional context. Over time this context integrated a strategic approach to the environmental management of offshore petroleum operations in the form of EAs, REIAs, and IMPs. After presenting the cases, the chapter discussed the role institutions play in the management of Norway's offshore petroleum sector. This section provided greater substance to the account that institutions in Norway's oil and gas regime are reflective of their Scandinavian roots. As Castles, Knudsen, Rothstein, Heidar, and Lijphart argue, the homogeneity of Norway's political culture has created a society that has historically had faith and confidence in the government's deep-rooted decision-making ability. Grenstalds et al. further argued citizens are confident that the state will chose policies that reflect their best interests as a nation. This historical context created networks of cooperation across sectors and levels of government, allowing further incorporation of EAs into Norway's oil and gas energy plan.

Overall, the thesis set out to argue that the policies regulating the oil and gas sector in Norway's Arctic region are path dependent upon historical influences, in combination with collaborative efforts among agencies, industries, communities and local people. As the historical institutionalist approach advocates, history and politics

[146] Noreng, Oystein, *The Oil Industry and Government Strategy in the North Sea* (London: Croom Helm, 1980), 17.

are dynamic processes, and institutions reflect this quality as they continue to adapt to address environmental concerns.[147]

It is evident that in the case of Norway, there was no shock or equilibrium upset that altered the institutional path in their petroleum development; rather, it reflects a gradual, adaptive, and incremental change that has unfolded over time as a result of earlier policy choices. For example, at the first discovery of offshore petroleum resources in Norway the King imposed regulations pertaining to environmental protection. Over the years, this has advanced into legislation requiring site-specific EAs to be conducted, to regional environmental impact assessments, and to an integrated management plan. All of these processes require approval from the Ministry of the Environment, the Ministry of Petroleum and Energy, and must be transparent for the public. As such, Norway's approach to the environmental management of offshore oil and gas activities reflect some of the main aims of SEA. Decision-making must be transparent, the objectives for any strategic action must be analyzed by examining all other possibilities, and key environmental/sustainability constraints must also be considered to mitigate potential issues in future development. Therefore, SEA is being utilized informally through EIAs, regional EAs, and now, IMPs.

As the Arctic continues to attract global interests for its petroleum potential, balancing development and environmental interests will become increasingly important. As Minister Ola Borten Moe said during his presentation to the Brookings Institute in Washington, "to succeed, dialogue between our countries is very important. The same goes for sharing experience, transferring of knowledge and discussing lessons learned."[148] Understanding the different regulatory regimes being implemented by nations with offshore Arctic oil and gas operations is a crucial element for the sustainable development of energy resources in Arctic environments.

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[147] Sven Steinmo, "Chapter 7: What is Historical Institutionalism?" in forthcoming *Approaches in the Social Science*, Donatella Della Porta and Micheal Keating ed., (Cambridge UK, 2008): 173.

[148] Ola Borten Moe, "Norwegian Petroleum Policy – the Arctic," (speech, Washington, D.C, November 9, 2012), Brookings Institute, accessed November 20, 2012, http://www.regjeringen.no/upload/OED/pdf%20filer/Taler%20og%20artikler/2012-11-09_OlaBortenMoe_Presentation_Brookings.pdf.

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